

# Missouri Preventive Services Program

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Data at a Glance 2011-2012



**Office of Primary Care and Rural Health**



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## Table of Contents

No.	Chapter	Page Number
1.	Introduction	1
2.	Definitions	2
3.	Methods	3
4.	Results	5
5.	Dental Hygiene	9
6.	Treated Decay - Primary	11
7.	Treated Decay - Permanent	13
8.	Untreated Decay - Primary	14
9.	Untreated Decay - Permanent	16
10.	Dental Sealant	19
11.	Early or Urgent Dental Care	20
12.	History of Rampant Caries	22
13.	Early Childhood Caries	24
14.	White Spot Lesions	27
15.	Summary	28

## **Introduction**

As stated in *Oral Health in America: a Report of the Surgeon General*, oral health is essential to general health and quality of life. The consequences of poor oral health are pain, financial and social costs, and complications that affect overall well-being. In children, poor oral health has been linked to missed school as well as problems eating, speaking, and learning. Dental care is the most commonly cited unmet healthcare need in the nation.

To address this unmet need and the consequences of the need for children in particular, the Missouri Department of Health and Senior Services (DHSS) created the Missouri Oral Health Preventive Services Program (PSP). It is a free, community-based, systematic approach to population-based prevention of oral disease. The PSP is dedicated to promoting healthy smiles for all of our state's children (infants to age 18), through education and preventive treatment.

The program is managed by the Missouri Oral Health Program within the Office of Primary Care and Rural Health. DHSS provides free oral health program consultants, educational materials, screening supplies (screening forms, disposable mouth mirrors, toothbrushes, toothpaste, and fluoride varnish), as well as web-based training for volunteers and other support as needed for implementing the PSP. The PSP is coordinated through schools, Head Starts, child care facilities, local public health agencies (LPHAs), federally qualified health centers (FQHCs), and health clinics.

The purpose of this report is to describe the demographics and oral health status of children participating in the PSP in Missouri. Although only a sample of all Missouri school children are reached by the PSP, this report does provide some information on the need for dental care among Missouri children. This information is essential for program planning and intervention development for the MOHP and its partners.

### **The PSP consists of four parts:**

- 1. Surveillance/Screening** – Completion of annual standardized oral health screenings of children and entry into a statewide database. This is the basis for the content of this report. Oral screenings are conducted by a dentist or dental hygienist.

- 2. Education** - A community volunteer provides oral health education to all children participating in the PSP program. A toothbrush, toothpaste and oral health educational materials are also provided to participating children.
- 3. Prevention** - Two applications of a fluoride varnish are applied by a trained community volunteer. The first application is done at the screening event and a second application is applied three to six months later.
- 4. Referral** - Assistance for communities participating in the PSP to establish a referral network of local dentists for dental treatment of children.

**People involved in the PSP event include:**

**Event Coordinator** - The person coordinating the screenings, varnish application, education and referrals for the school or agency and who is typically a school nurse, head start health coordinator, county nurse or parent.

**Screener** – May be a dentist or a dental hygienist.

**Varnish Volunteer** - Parent, nurse, teacher or any other person interested in applying varnish.

**Other Assistants** - Parent, nurse, teacher or any other person interested in helping with the details of the event.

## **Definitions**

**Tooth decay/Dental caries** is a destructive process causing decalcification of the tooth enamel and leading to continued destruction of enamel and dentin, and cavitations' of the tooth.

**White-spot lesions** are an early stage of tooth decay formation. Lesions are the first sign of decay that can actually be visualized.

**Early childhood caries**, also known as baby bottle caries, baby bottle tooth decay, and bottle rot, is a syndrome characterized by severe decay in the teeth of infants or young children. Early childhood caries is a very common bacterial infection.

**Rampant dental caries** involve several teeth, appear suddenly, and often progress rapidly.

**Dental sealants** are a dental treatment consisting of applying a plastic material to the top (biting) surfaces of permanent molars for the purpose of preventing dental caries.

**Early Dental Care** is required when there are some injuries and conditions that require attention within a few months.

**Urgent Dental Care** is required when there are some injuries and conditions that require immediate attention, within 24 hours.

**Primary teeth**, also known as baby teeth, are the first set of teeth in the growth development of humans. They develop during the embryonic stage of development and erupt—that is, they become visible in the mouth—during infancy. They are usually lost and replaced by permanent teeth, but in the absence of permanent replacements, they can remain functional for many years.

**Permanent teeth** are the second set of teeth formed; there are usually thirty-two permanent teeth.

## Methods

The age of child was recorded along with other demographic data. For the purpose of this analysis, the age groups created were: age 4 and younger, age 5-12 and age 13 and older. The PSP data contained the grade level of participating children. For the purpose of this analysis, the grade level categories created were pre-school (preschoolers, kindergartner and head start), elementary school (1<sup>st</sup> – 5<sup>th</sup> grade), middle school (6<sup>th</sup> – 8<sup>th</sup> grade) and high school (9<sup>th</sup> – 12<sup>th</sup> grade).

The data on treated decay were stratified by age as primary teeth are mainly in children younger than age 13 and permanent teeth emerge as the primary teeth are lost. Therefore, the analysis of primary treated decay was limited to children age 12 and younger and permanent treated decay was limited to children older than 12 years of age.

## **Report Information**

**Disclaimer:** PSP data are program based, therefore, may not be representative of the child population in Missouri. The report was compiled for general demonstration of who and what is provided as direct oral health services to children throughout Missouri.

**Audience:** This report is intended for use by the general public as well as state and local policy makers, local public health agencies, health care personnel, voluntary organizations and others interested in oral health preventive services.

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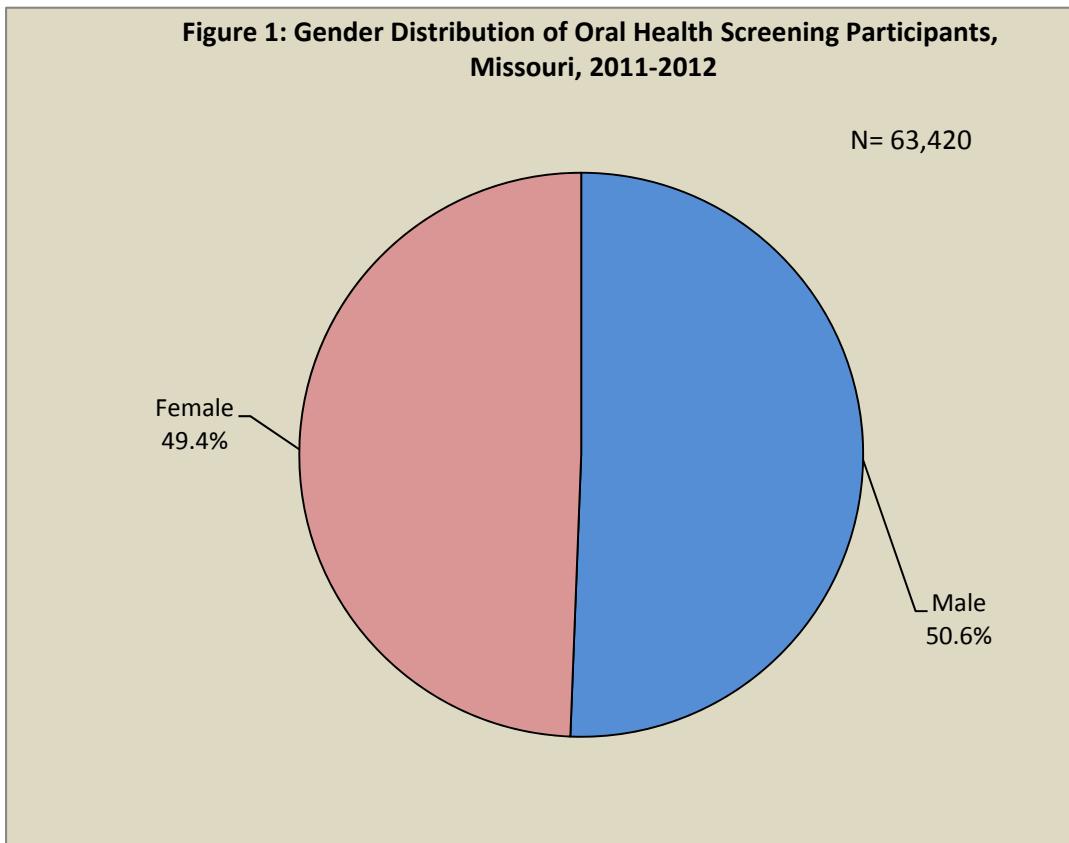
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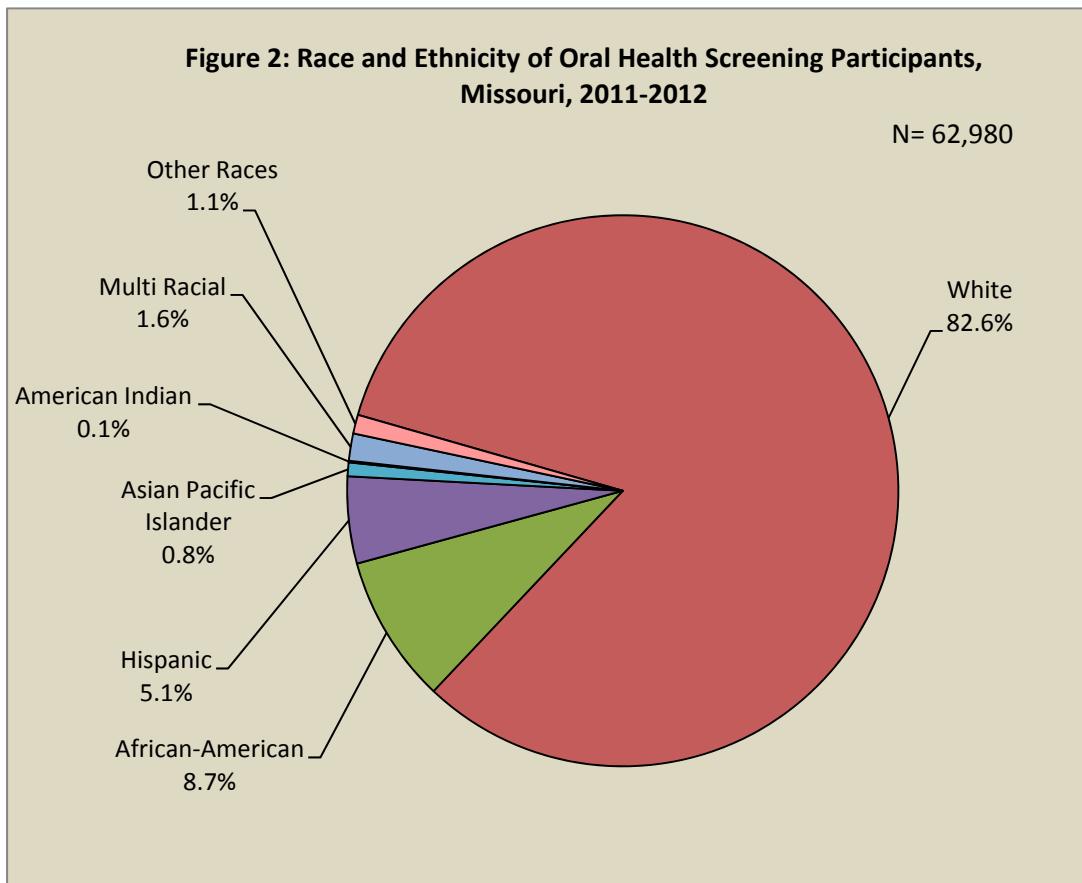
***AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER  
Services provided on a nondiscriminatory basis.***

## Results

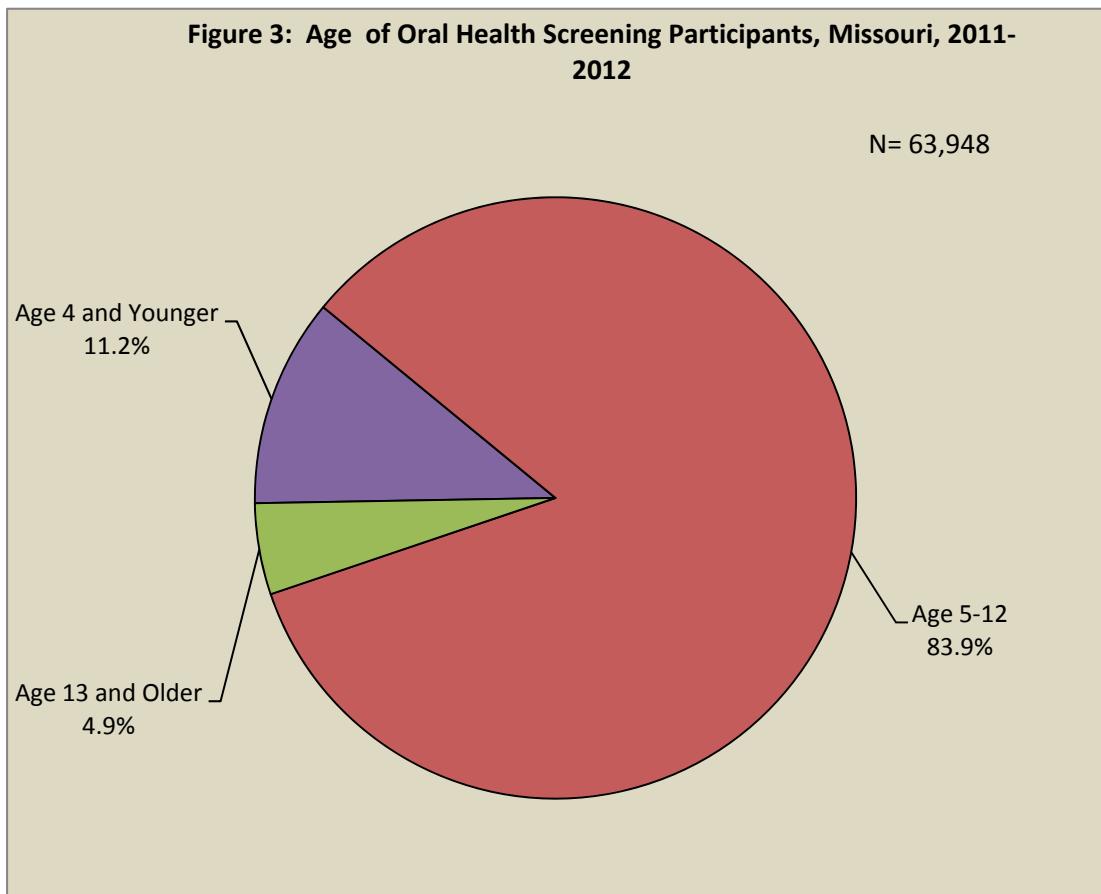
According to the 2011-2012 Preventive Services Program (PSP) data provided by the Office of Primary Care and Rural Health (OPCRH), the total number of children participating in the program was 63,420 with almost the same gender mix (Figure 1).



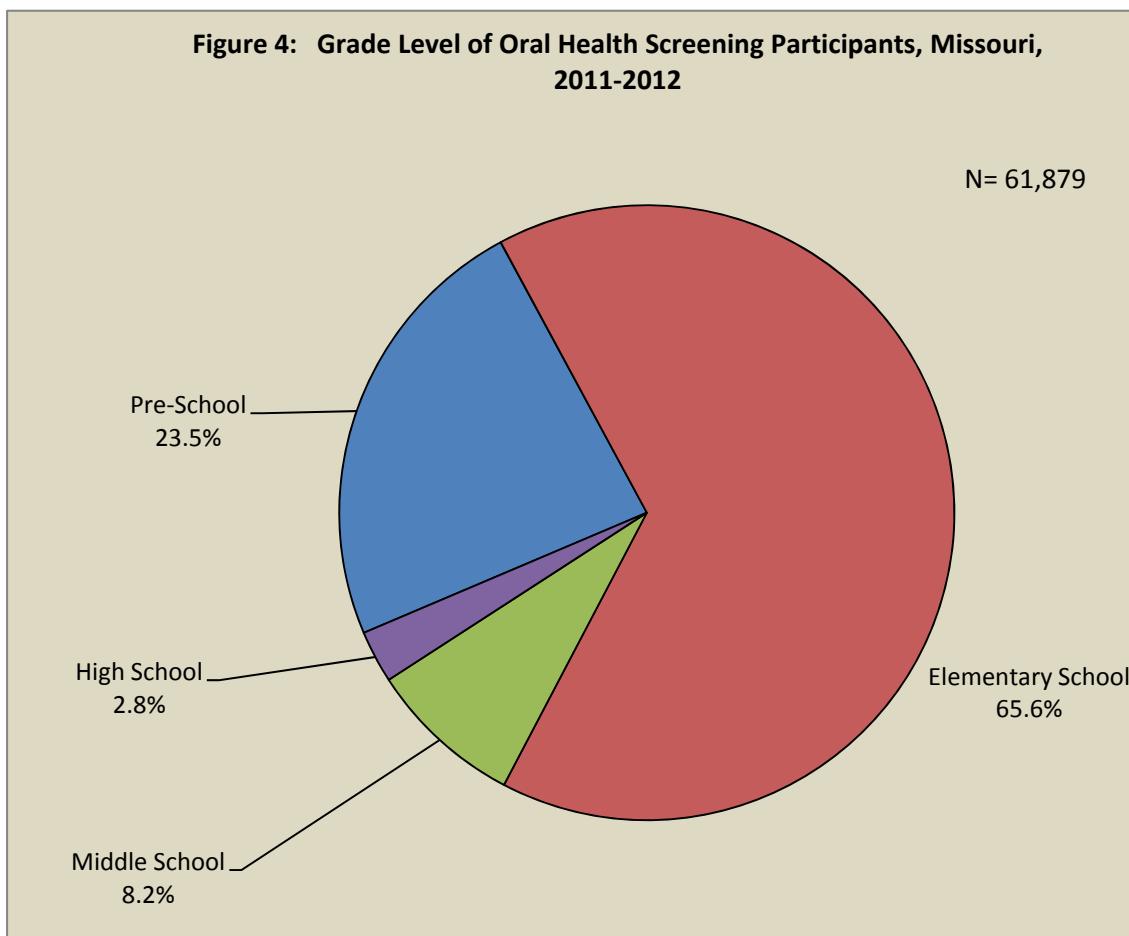
Participants were predominantly white (82.6%), followed by African American (8.7%) and Hispanic (5.1%). The remaining participants made up less than 4 percent of participants (Figure 2).



The majority of the participating children were in the age group 5-12 years (83.9%) followed by age 4 and younger (11.2%) and age 13 and older (4.9%) (Figure 3).

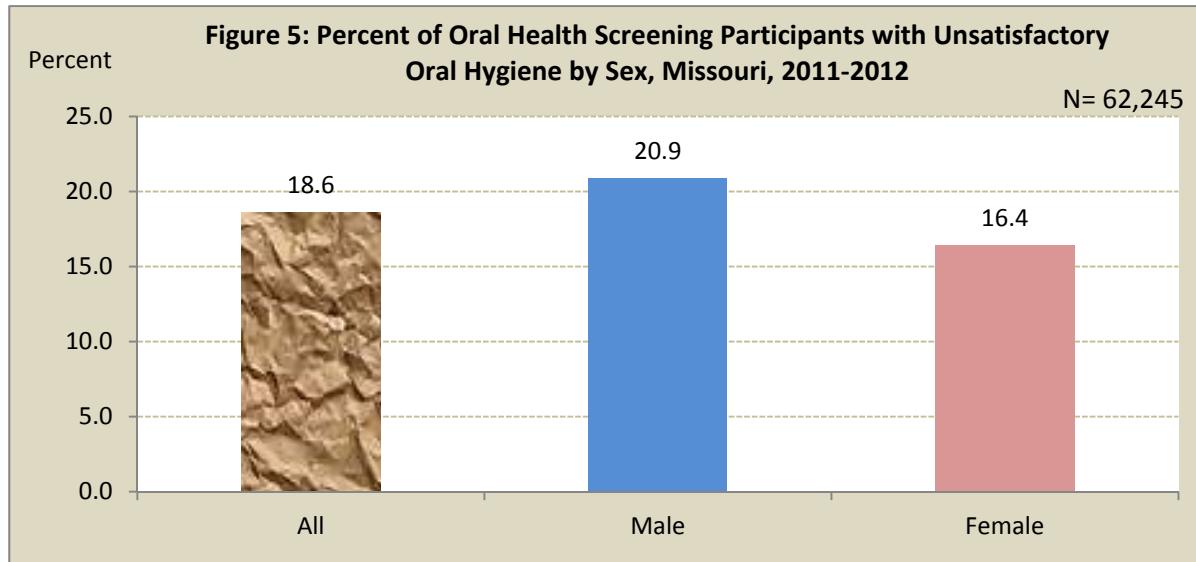


The majority of children were at the elementary school level (65.6%) followed by pre-school (23.5%), middle school (8.2%) and high school (2.8%) (Figure 4).

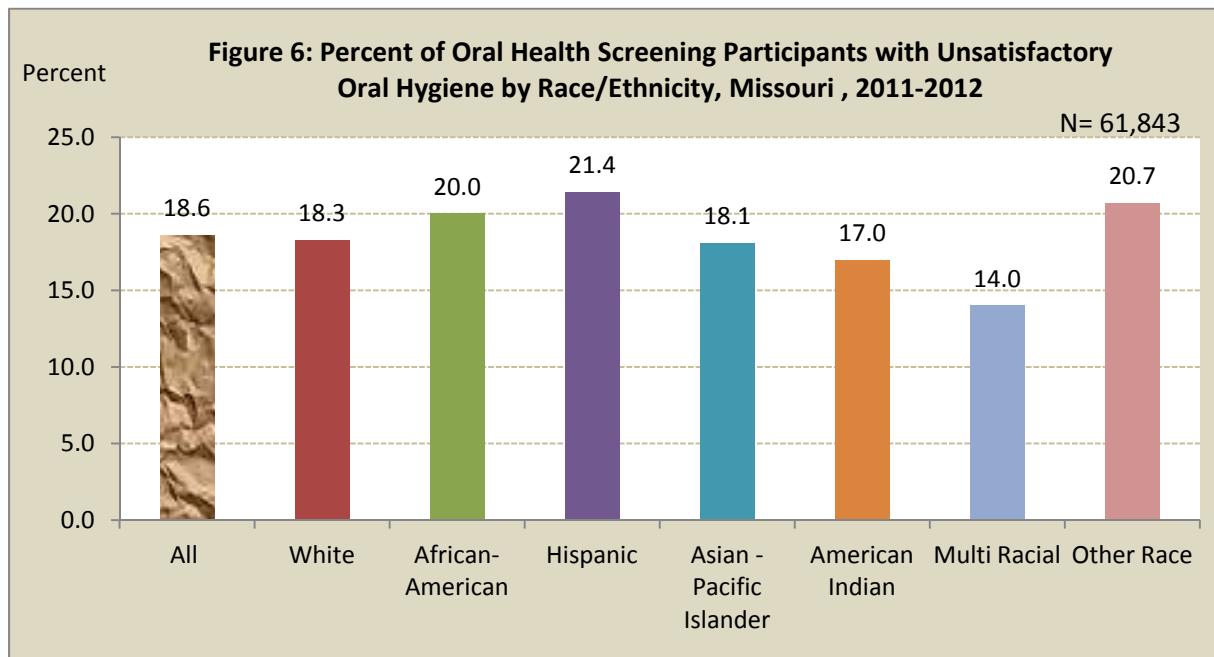


## Dental Hygiene

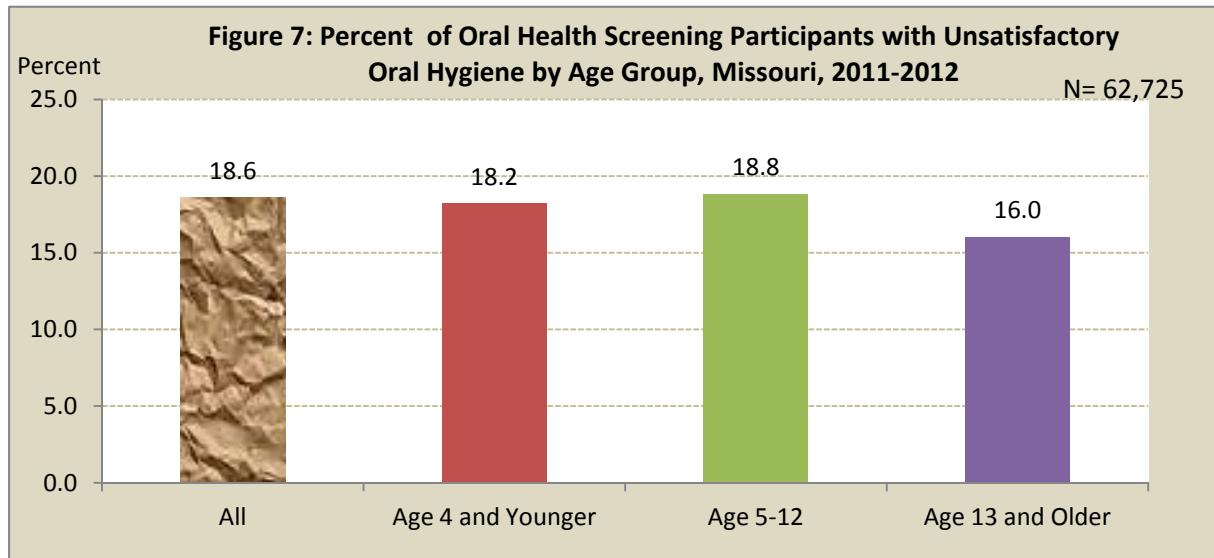
The data showed that about one in five of the participating children had unsatisfactory dental hygiene with slightly higher percentage among males than females (Figure 5).



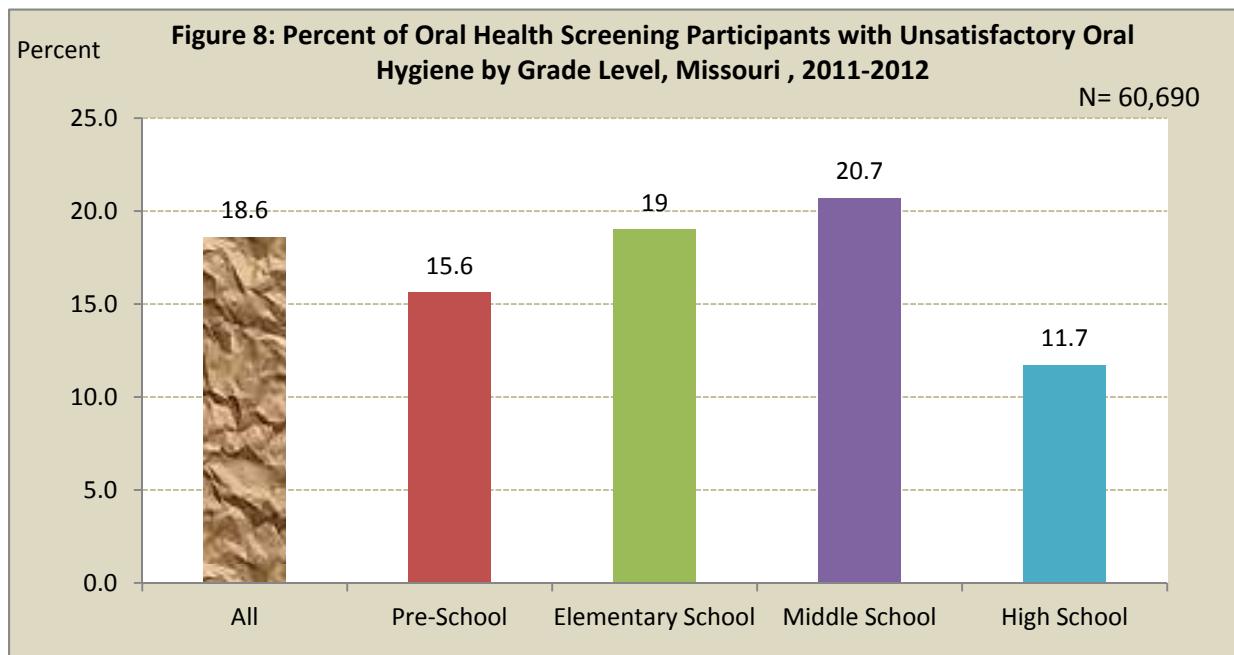
The percentage was similar across all racial/ethnic groups (Figure 6).



Children age 13 and older had the lowest prevalence of unsatisfactory dental hygiene (Figure 7).

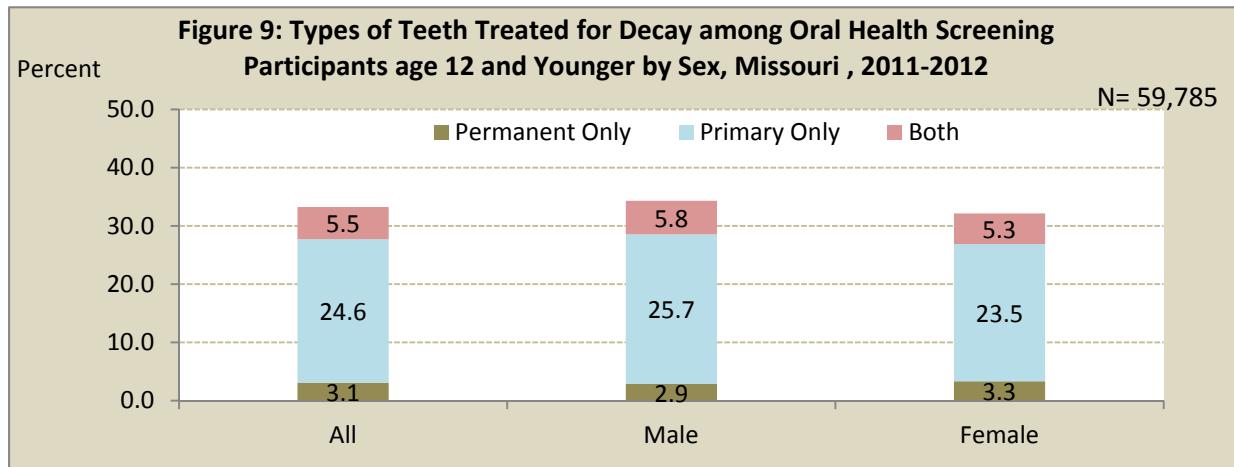


Unsatisfactory dental hygiene was most prevalent among middle school children followed by elementary school children and least among high school students (Figure 8).

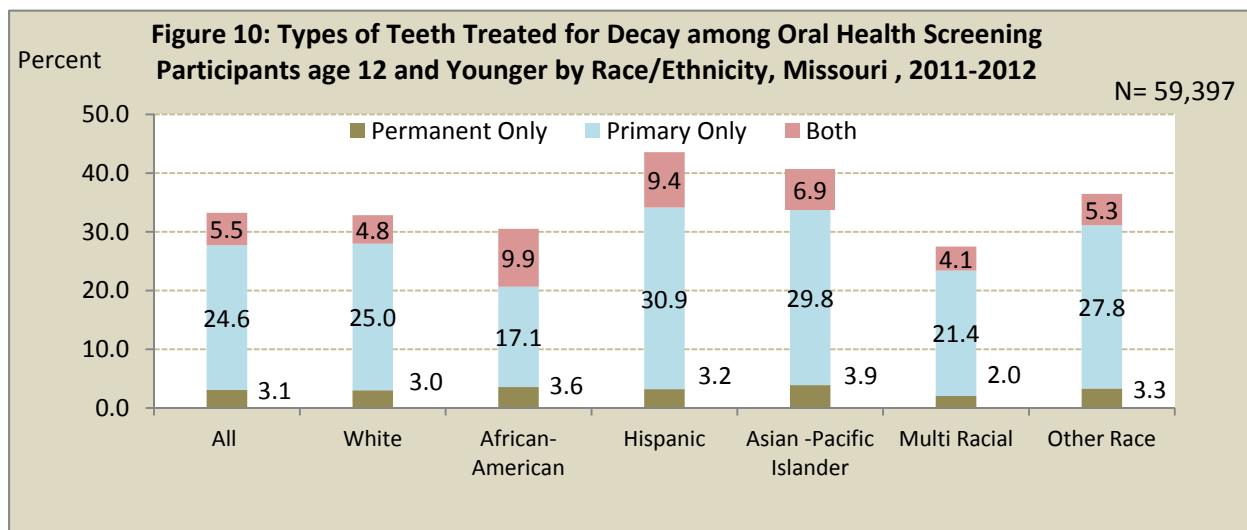


## Treated Decay - Primary

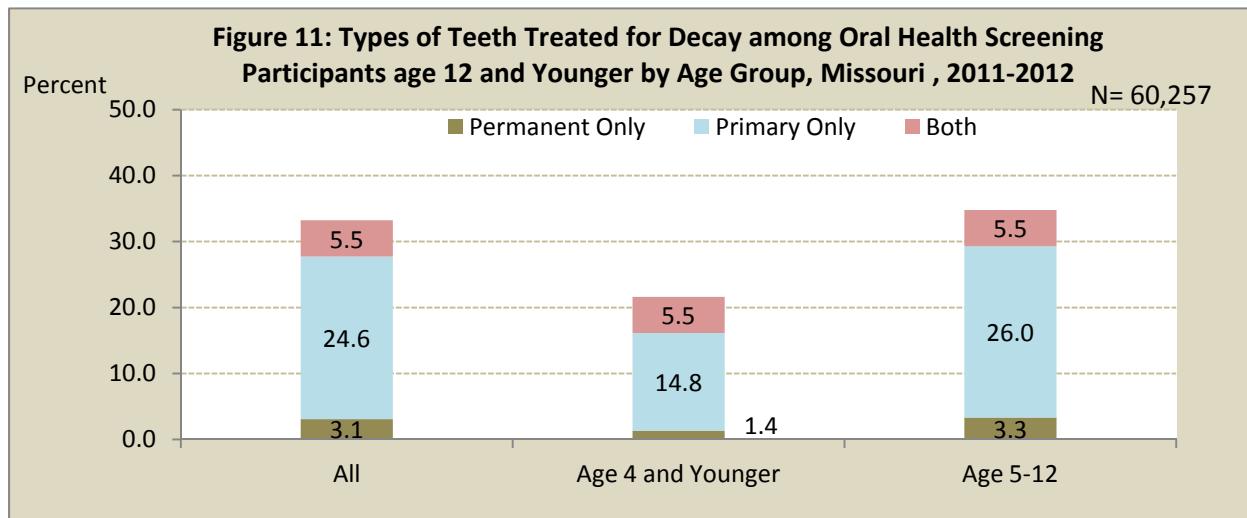
Among the children age 12 and younger, about one-fourth of the children (24.6%) were treated for decay in their primary teeth only, 3.1 percent in permanent teeth only and 5.5 percent in both primary and permanent teeth. Male children had a slightly higher proportion of treated decay on primary teeth than females (Figure 9).



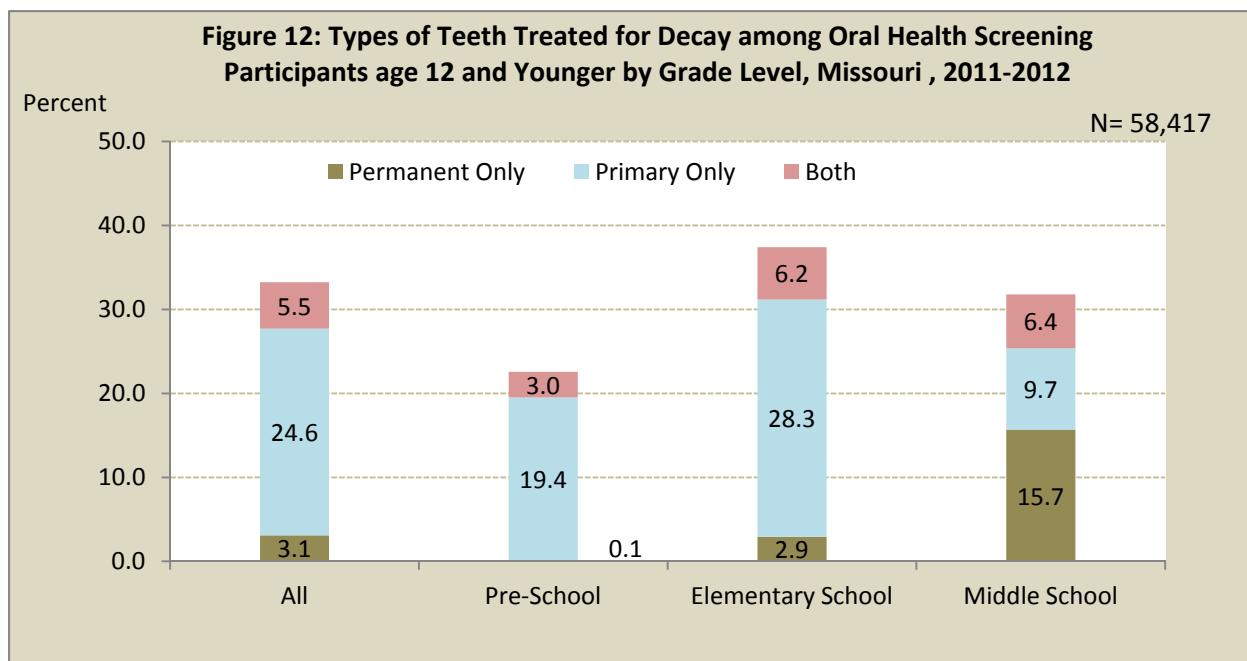
Regarding race/ethnicity, Hispanics (30.9%) had the highest percent of primary teeth treated for decay followed by Asian-Pacific Islanders (29.8%). African-Americans had the lowest percent (17.1%) of primary teeth treated for decay (Figure 10).



Children age 5-12 years (26.0%) had the highest percent of primary teeth treated for decay and children age 4 and younger (14.8%) had the lowest percent of primary teeth treated for decay (Figure 11).

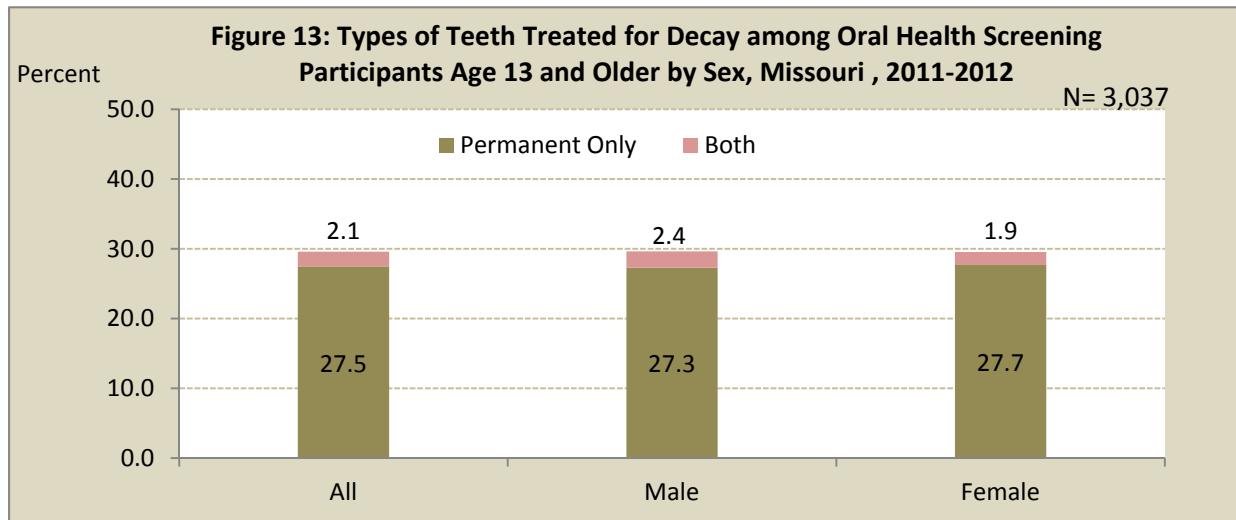


The highest percent of children who had primary teeth treated for decay were in elementary school (28.3%) followed by pre-school children (19.4%) (Figure 12).

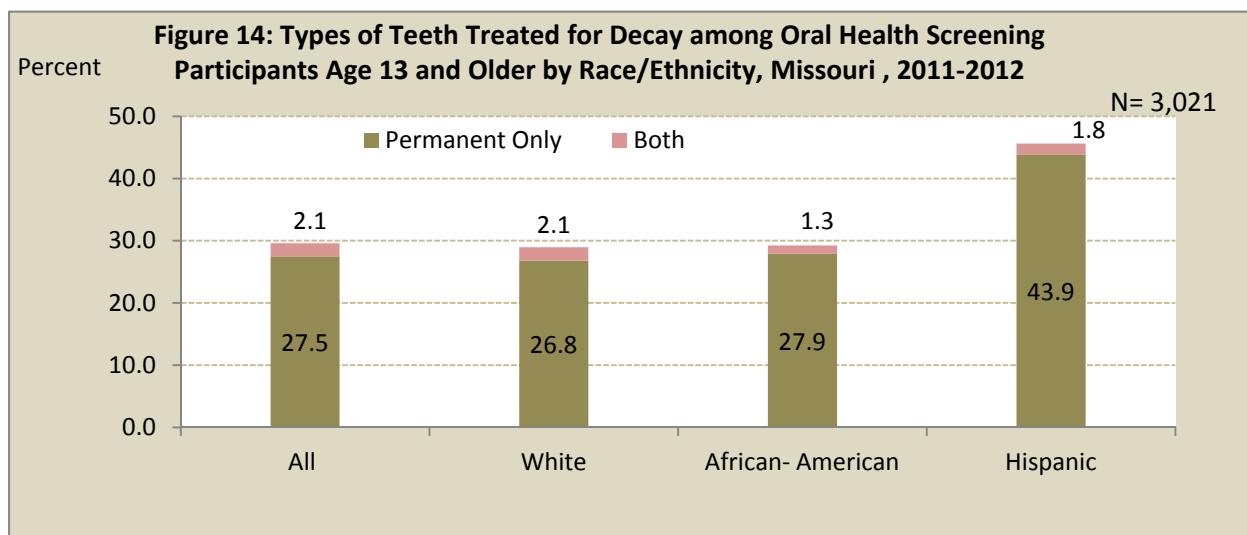


## Treated Decay - Permanent

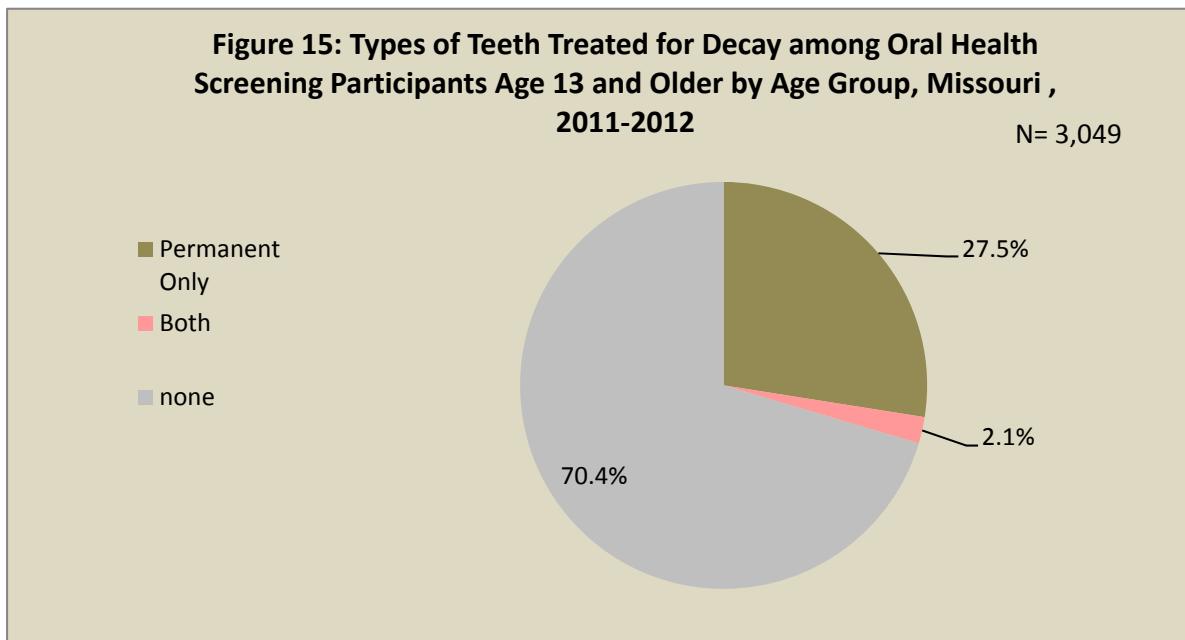
Almost 30 percent of children age 13 and older had their permanent teeth treated for decay and about 2 percent of children age 13 and older had both primary and permanent teeth treated for decay. About the same percent of males as females had their permanent teeth treated for decay (Figure 13).



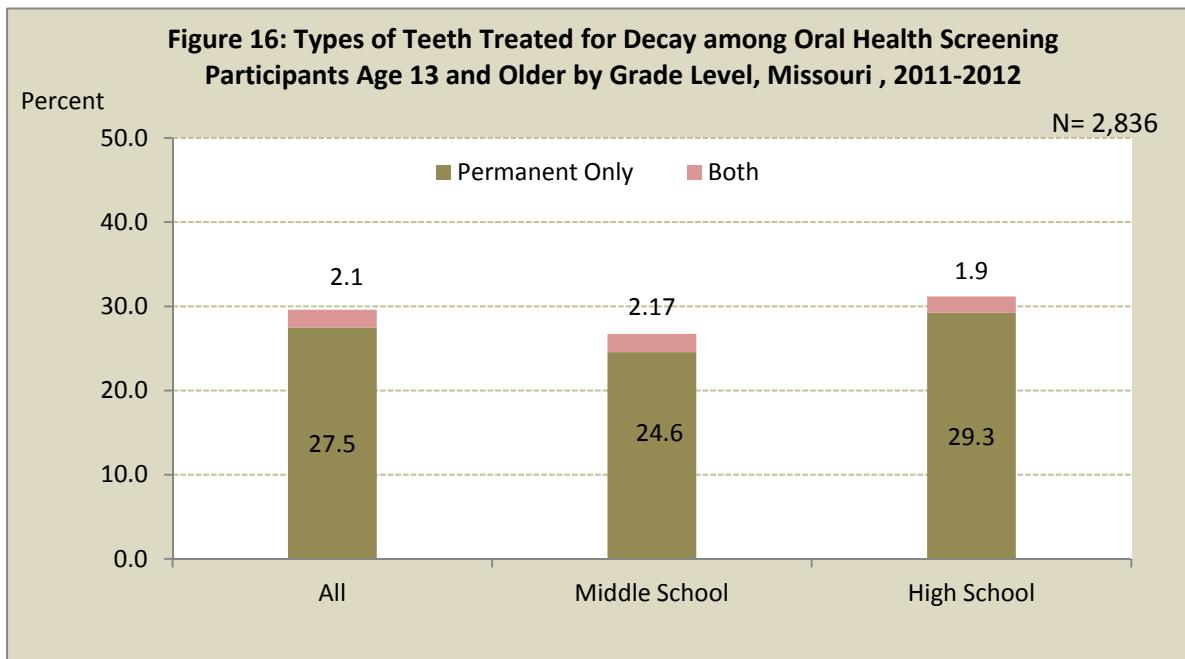
Regarding race/ethnicity, Hispanics had the highest percent with permanent teeth treated for decay (43.9%) followed by African-American (27.9%) and white (26.8%). There were not enough children in the other race/ethnicity groups for analysis (Figure 14).



Among children age 13 and older, more than one in four (27.5%) had their permanent teeth treated for decay and 2.1 percent were treated for both (Figure 15).

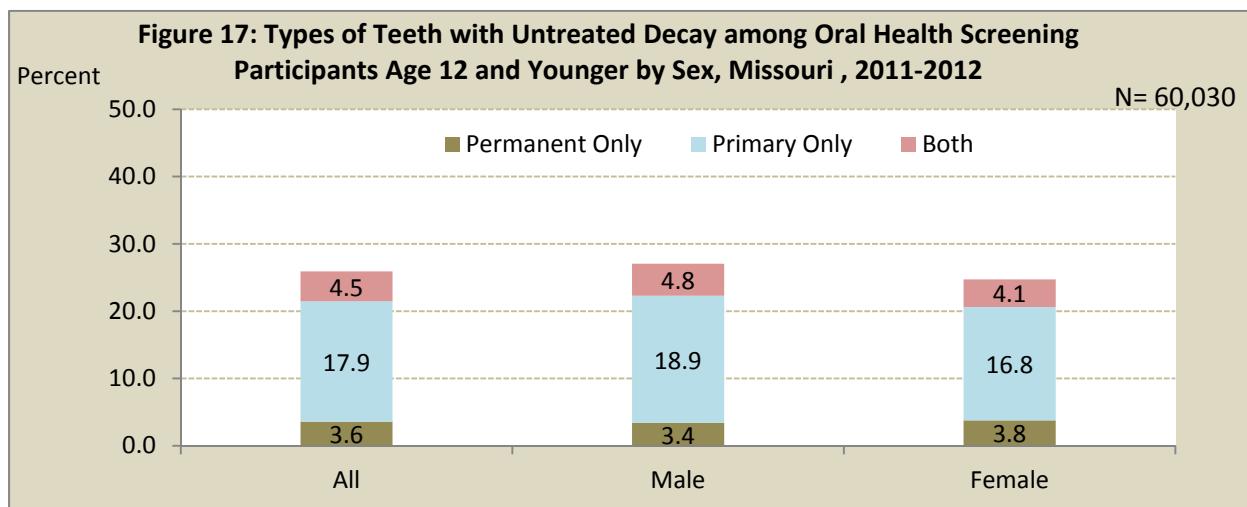


The highest percent of children that had their permanent teeth treated for decay was high school students (29.3%) followed by middle school children (24.6%) (Figure 16).

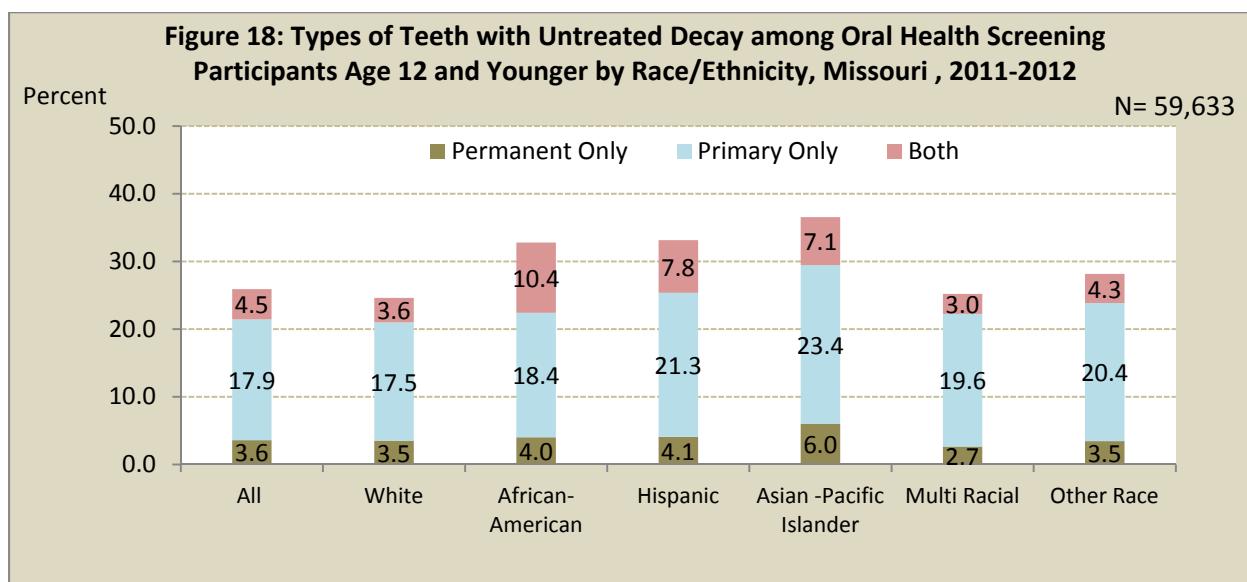


## Untreated Decay - Primary

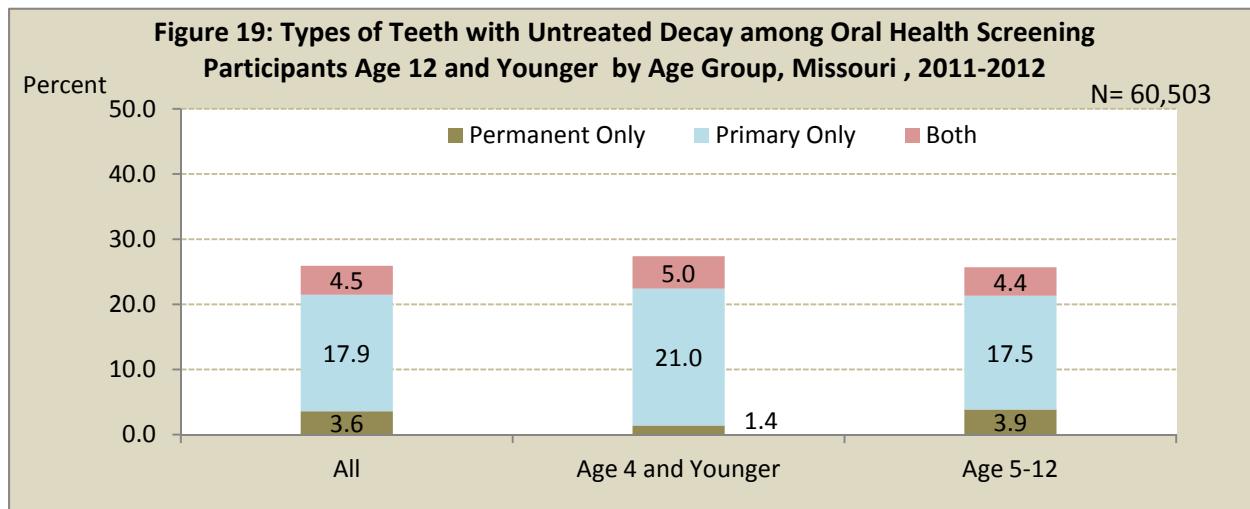
About one-fourth of the children younger than 13 years of age had untreated tooth decay, 17.9 percent had untreated decay in their primary teeth only, 3.6 percent had decay in their permanent teeth only and 4.5 percent had decay in both their primary and permanent teeth. Males had a slightly higher percent of primary teeth with untreated decay than females (18.9% vs. 16.8%) (Figure 17).



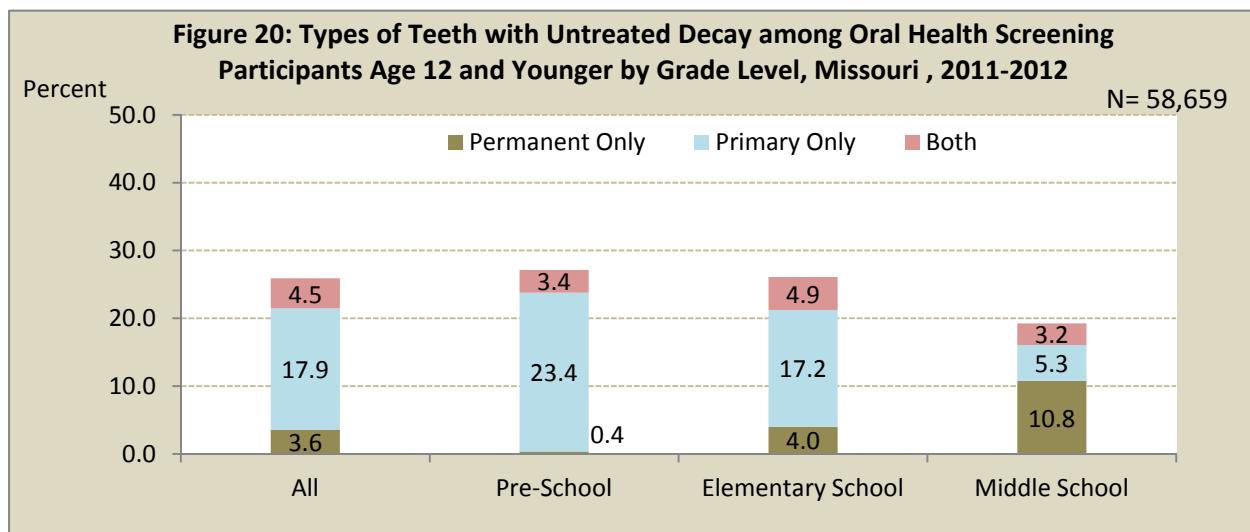
Asian-Pacific Islanders had the highest percent of untreated decay in primary teeth (23.4%) while whites had the lowest percent (17.5%) (Figure 18).



Children age 4 years and younger had a higher percent of untreated decay in their primary teeth (21.0%) than children age 5 to 12 years (17.5%) (Figure 19).



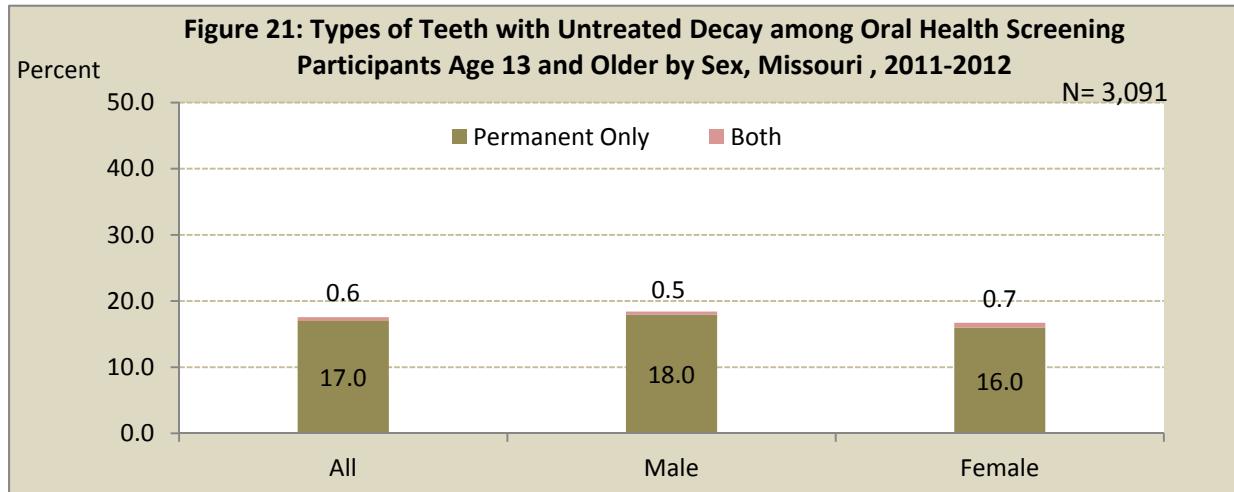
Children in pre-school had the highest percent of untreated decay in their primary teeth (23.4%) followed by elementary school children (17.2%) (Figure 20).



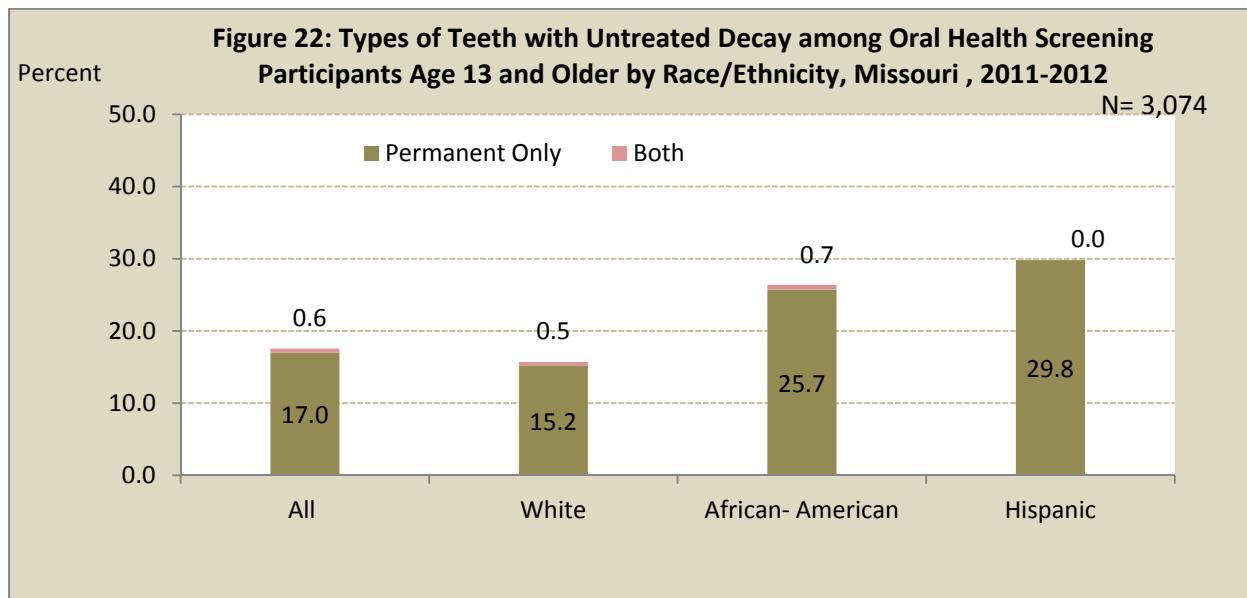
## Untreated Decay - Permanent

Among children age 13 and older, 17.0 percent had untreated decay in their permanent teeth.

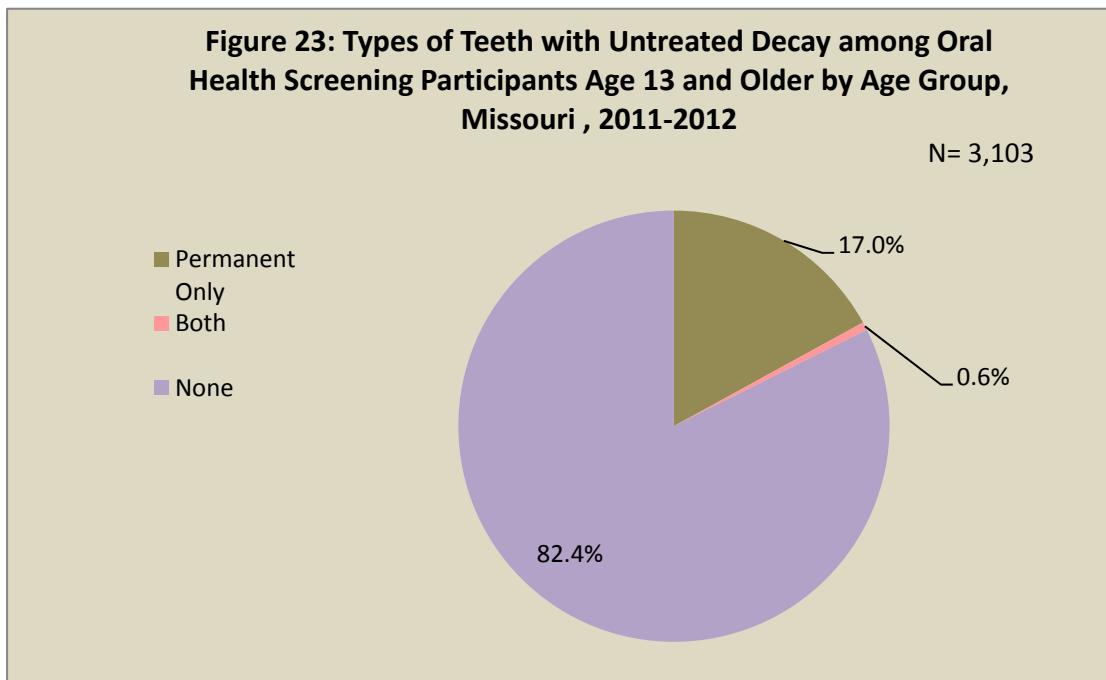
Male children compared to females had a slightly higher percent of untreated decay in their permanent teeth of (18.0% vs.16.0%) (Figure 21).



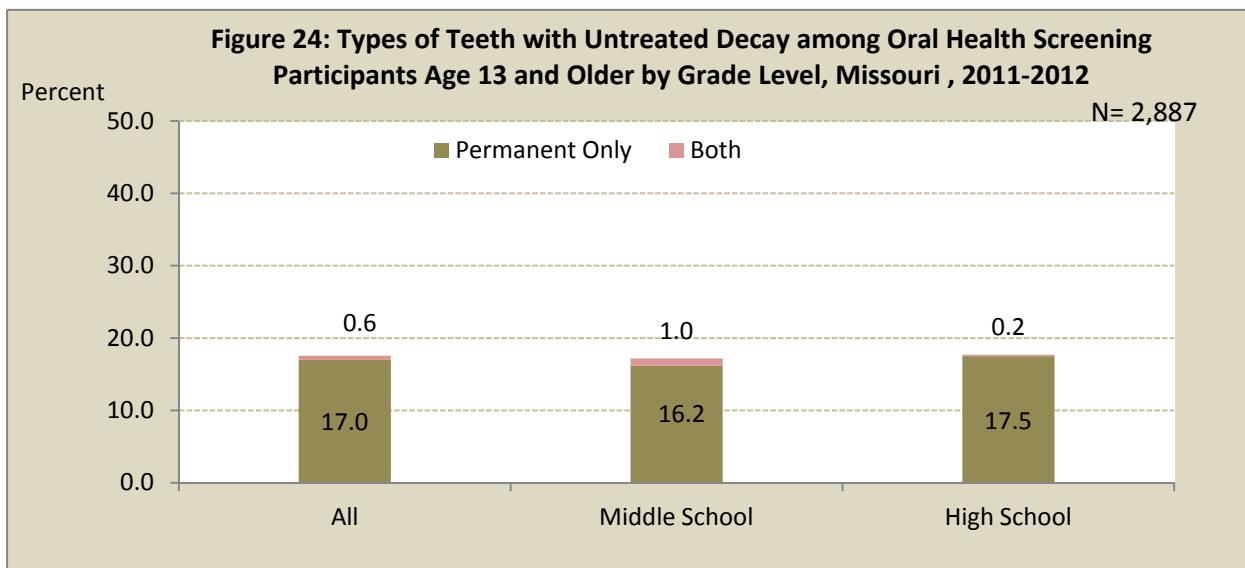
Hispanic children age 13 and older had the highest percent (29.8%) of untreated decay in their permanent teeth followed by African-Americans (25.7%). White children had the lowest percent (15.2%) (Figure 22).



Among children age 13 and older, 17.0 percent had untreated decay in their permanent teeth (Figure 23).

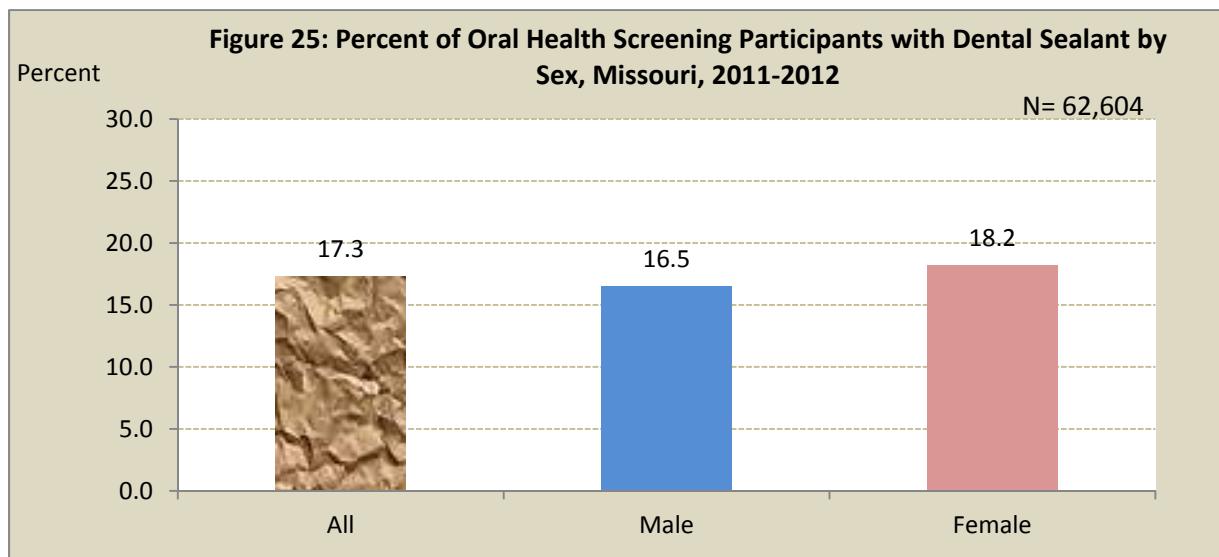


High school students had the highest percent of untreated decay in their permanent teeth and middle school children had 16.2 percent with untreated decay in their permanent teeth (Figure 24).

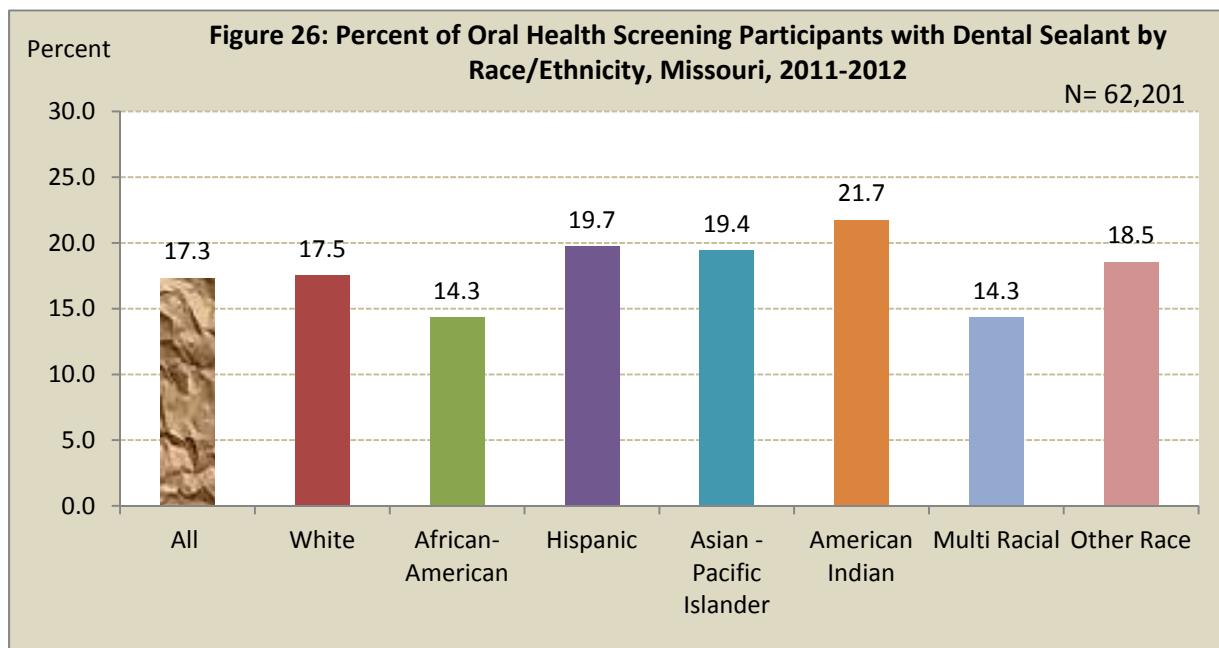


## Dental Sealant

In 2011-2012, about one in every six children had dental sealant, with a slightly higher percent among females (18.2%) than males (16.5%) (Figure 25).

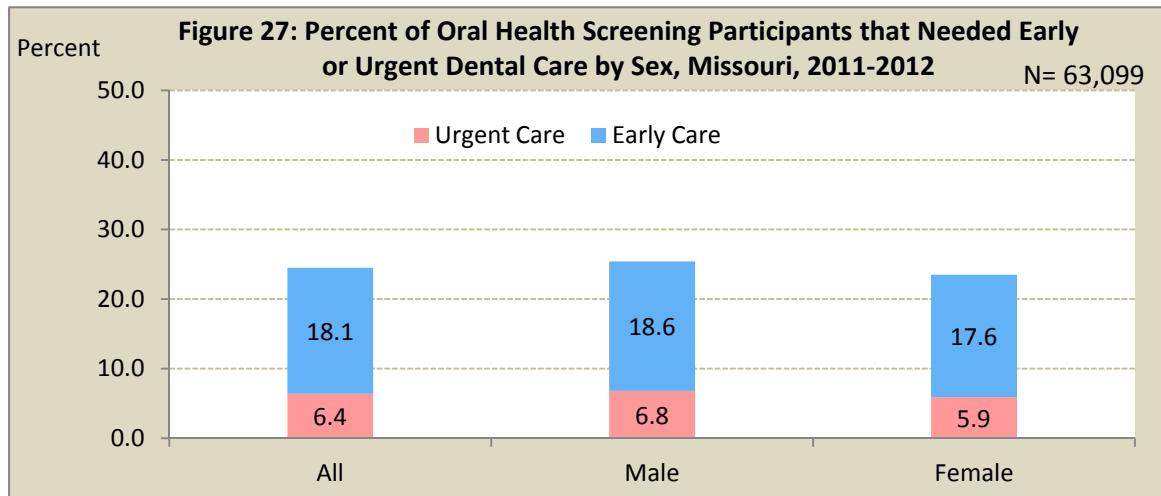


The percent of children with dental sealant (21.7%) was highest among American Indian children and lowest among multi-racial and African-American children (Figure 26).

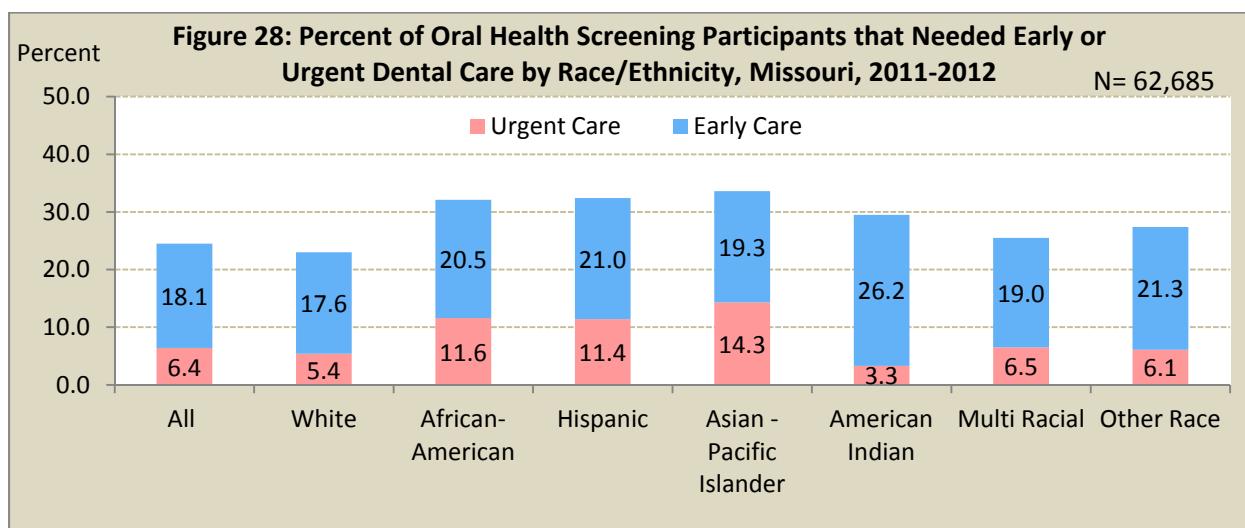


## Early or Urgent Dental Care

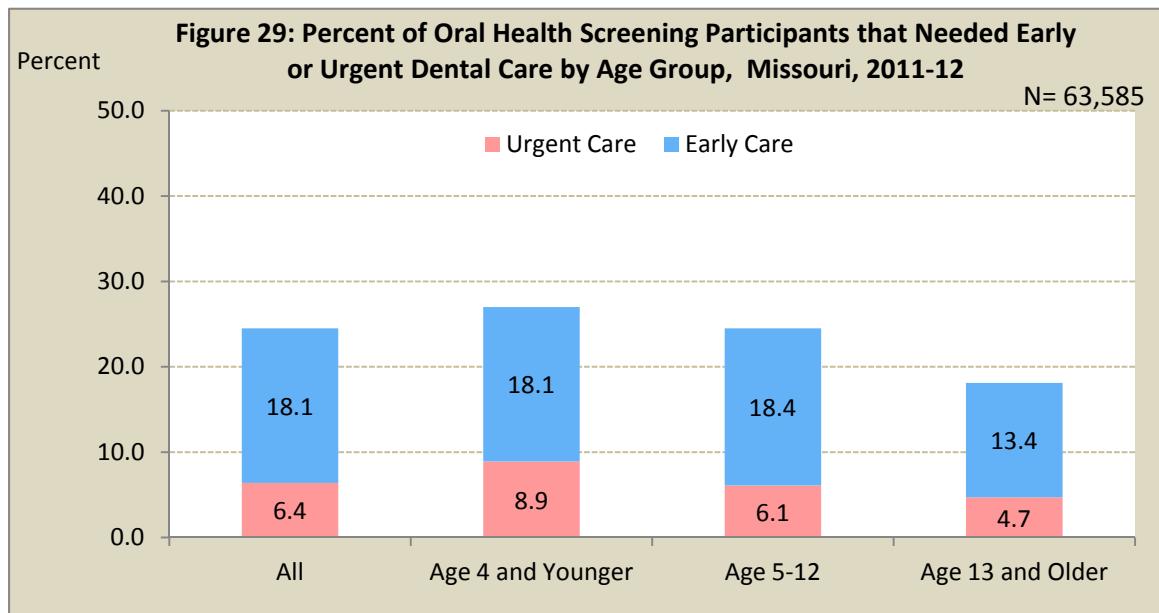
In 2011-2012, 6.4 percent of children had to go for urgent dental care, 18.1 percent went for early dental care and 75.5 percent had no obvious problem that required urgent or early care. A slightly higher percent of male children needed urgent or early dental care than female children (Figure 27).



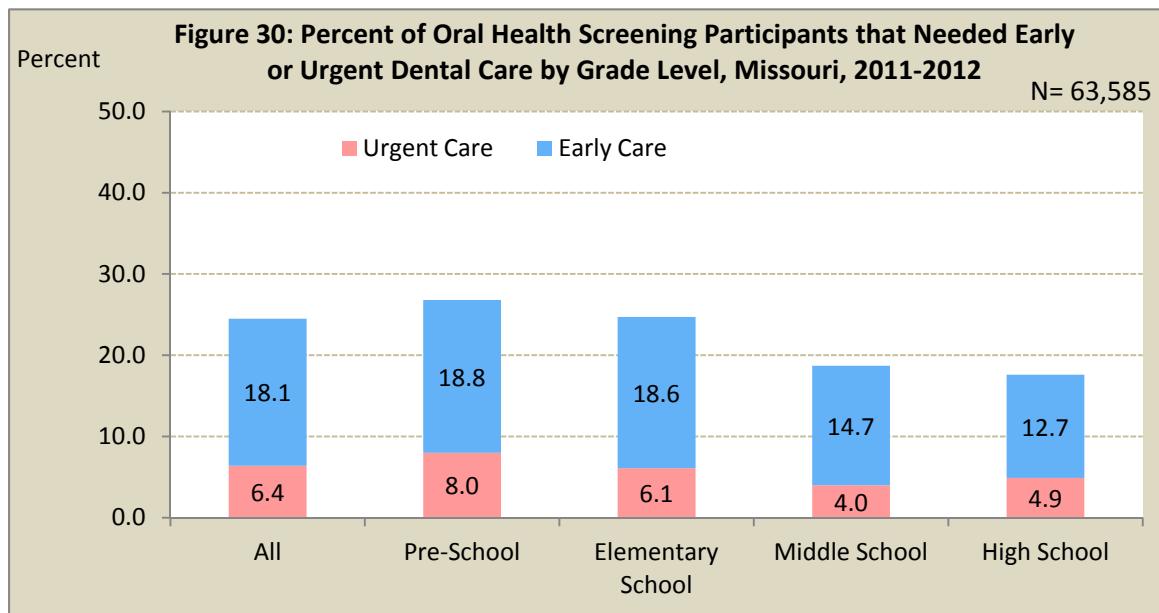
One in three Asian-Pacific Islander children (33.6%) needed either urgent or early dental care while white children had the lowest need for urgent or early dental care, about 23.0 percent (Figure 28).



The higher the age, the lower the percent of children that needed early or urgent dental care (Figure 29).

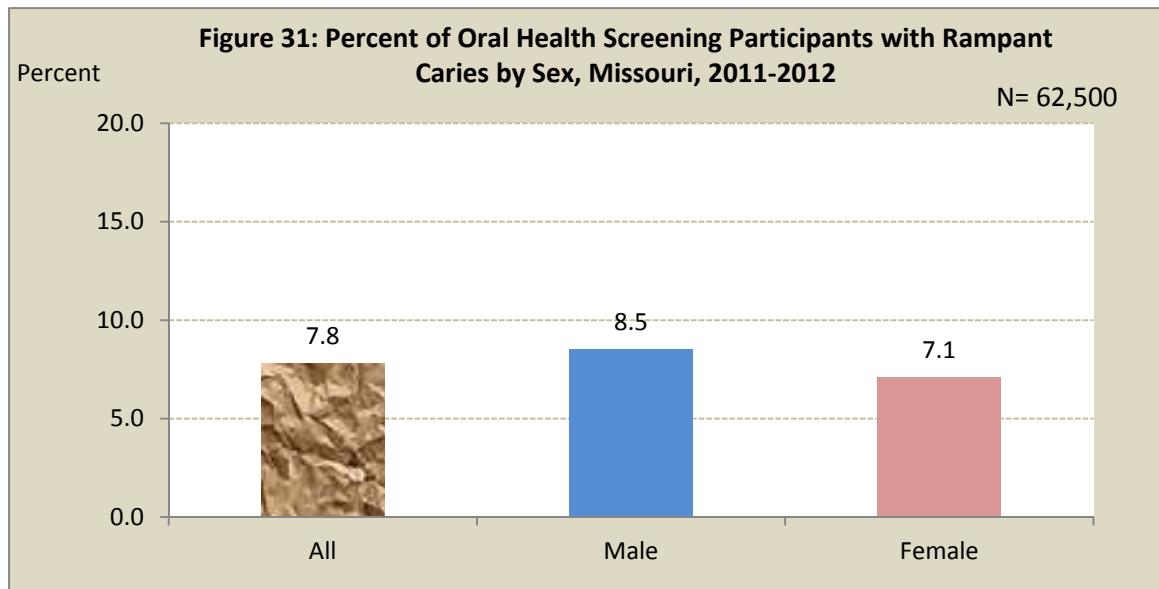


The higher the grade level, the lower the percent of children who needed early or urgent dental care (Figure 30).

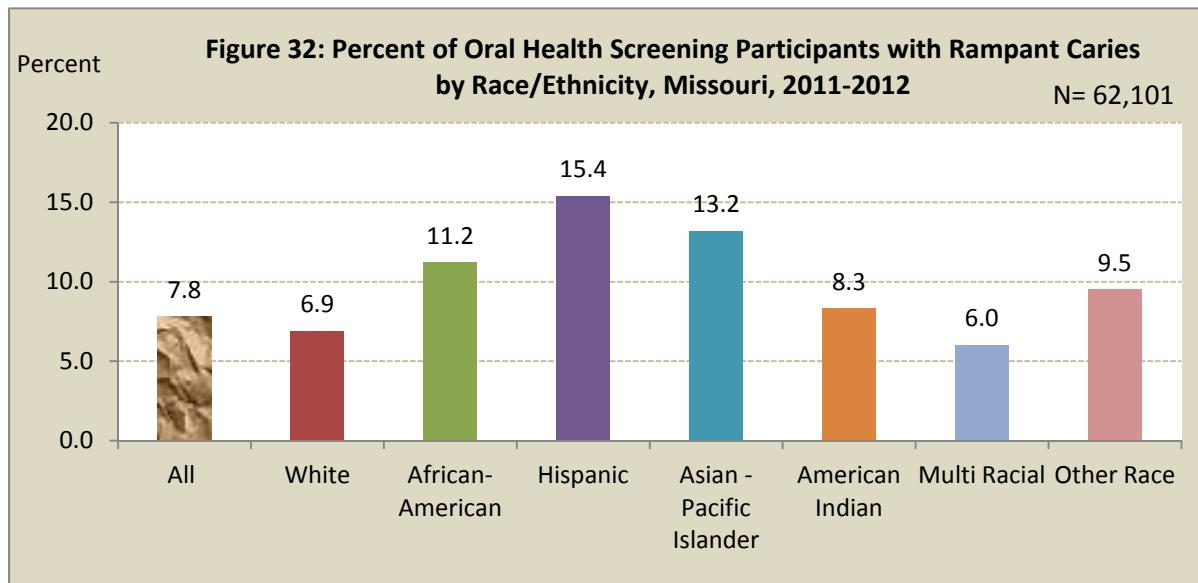


## History of Rampant Caries

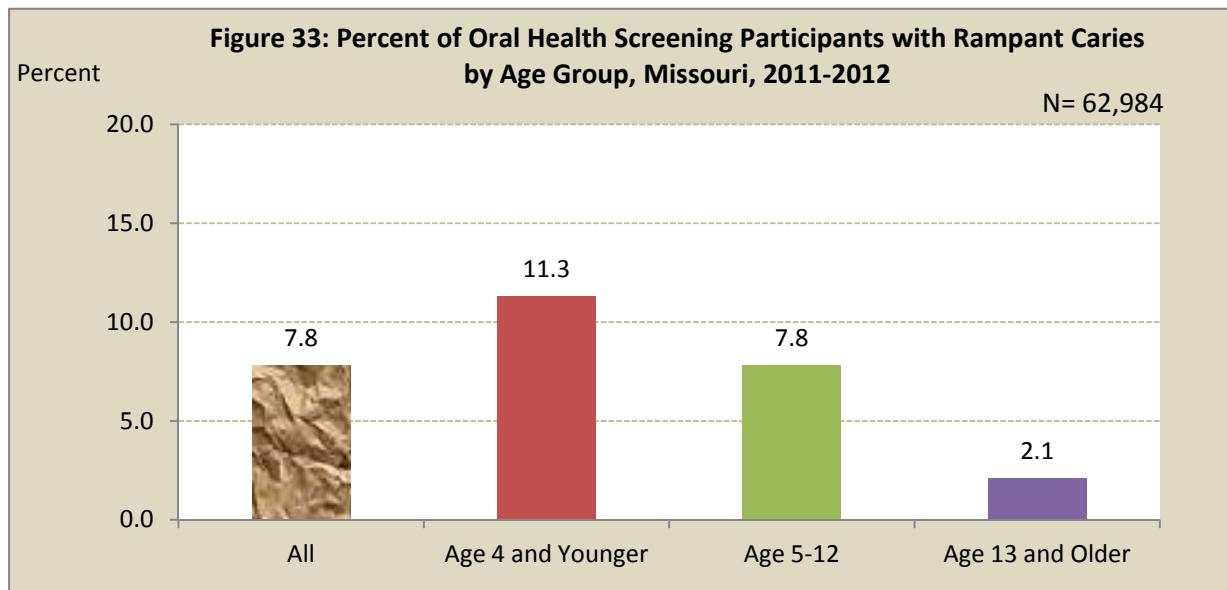
In 2011-2012, about eight percent of children had a history of rampant caries, with males slightly higher than females (8.5% vs. 7.1%) (Figure 31).



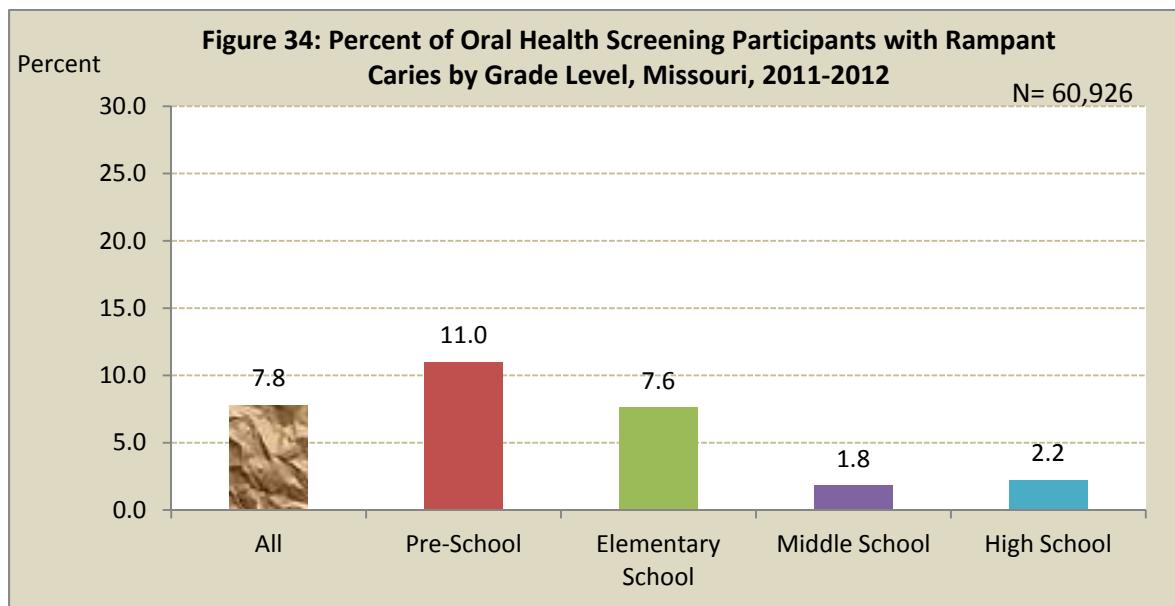
The history of rampant caries was most prevalent among Hispanics (15.4%) followed by Asian Pacific Islanders (13.2%), African-Americans (11.2%) and least among multi-racial (6.0%) and white children (6.9%) (Figure 32).



The data showed that the younger the age of the children, the higher the percent with a history of rampant caries (Figure 33).

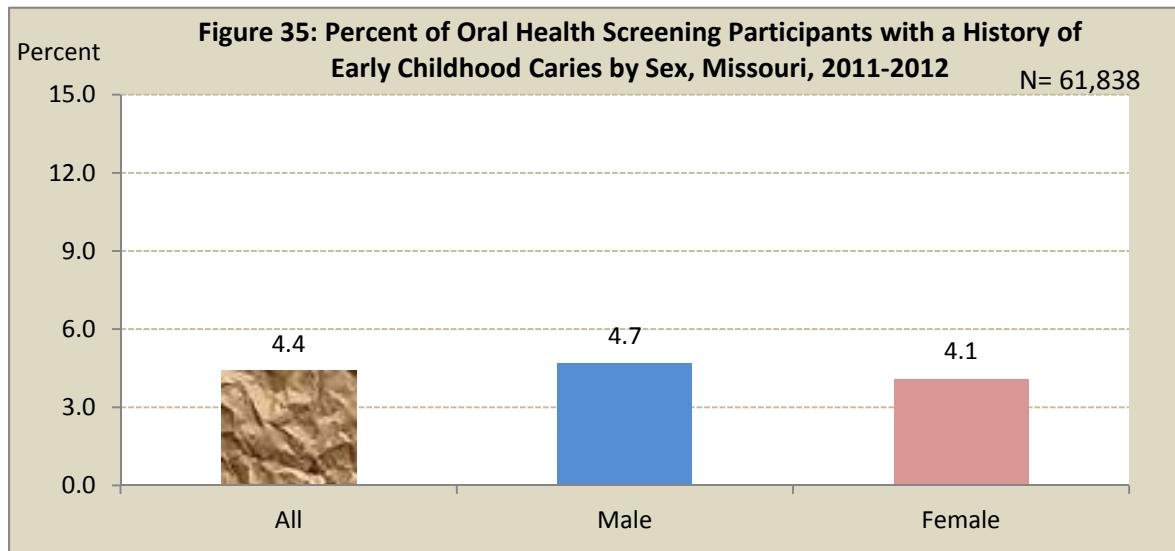


The data showed that the lower the grade levels, the higher the percent with a history of rampant caries (Figure 34).

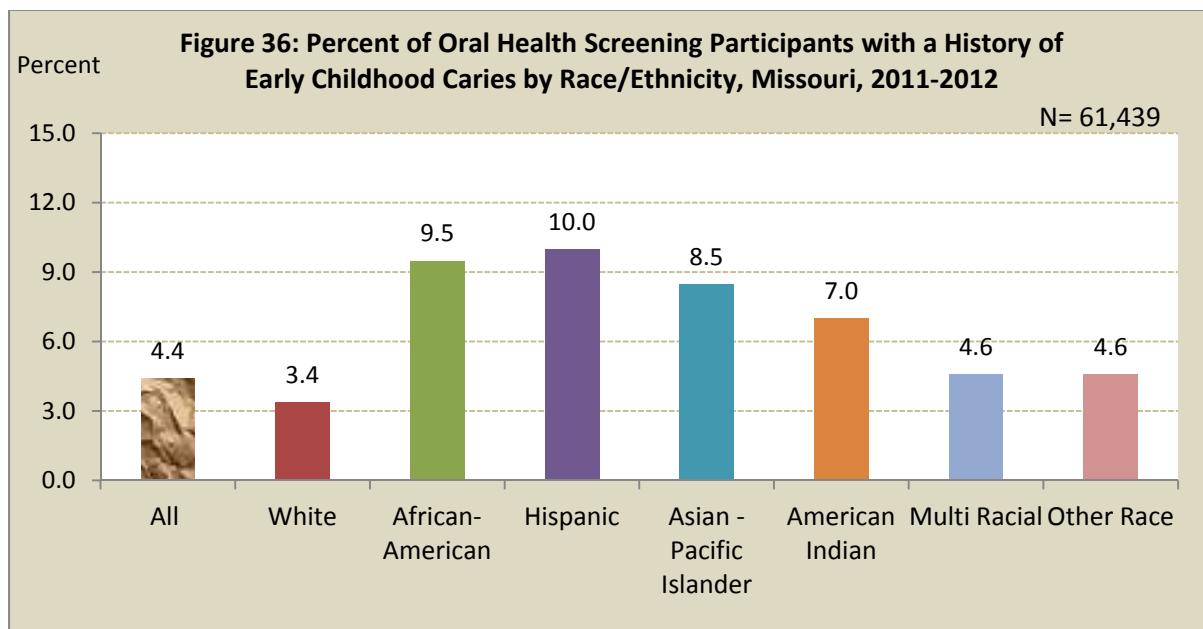


## History of Early Childhood Caries

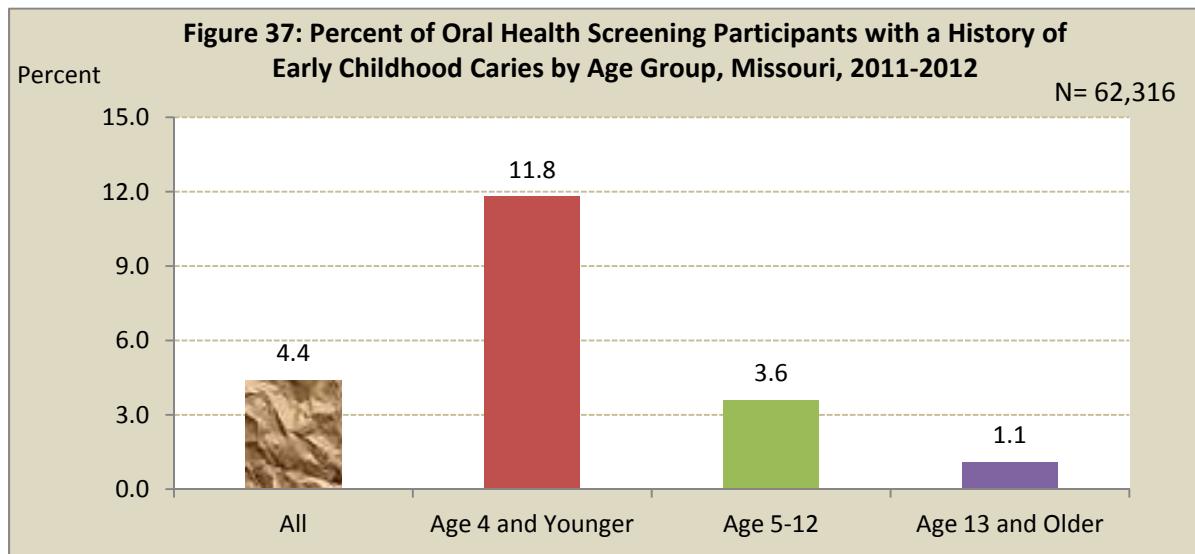
About one in twenty children (4.4%) had a history of early childhood caries. Compared to females (4.1%), males (4.7%) had a slightly higher percent with a history of early childhood caries (Figure 35).



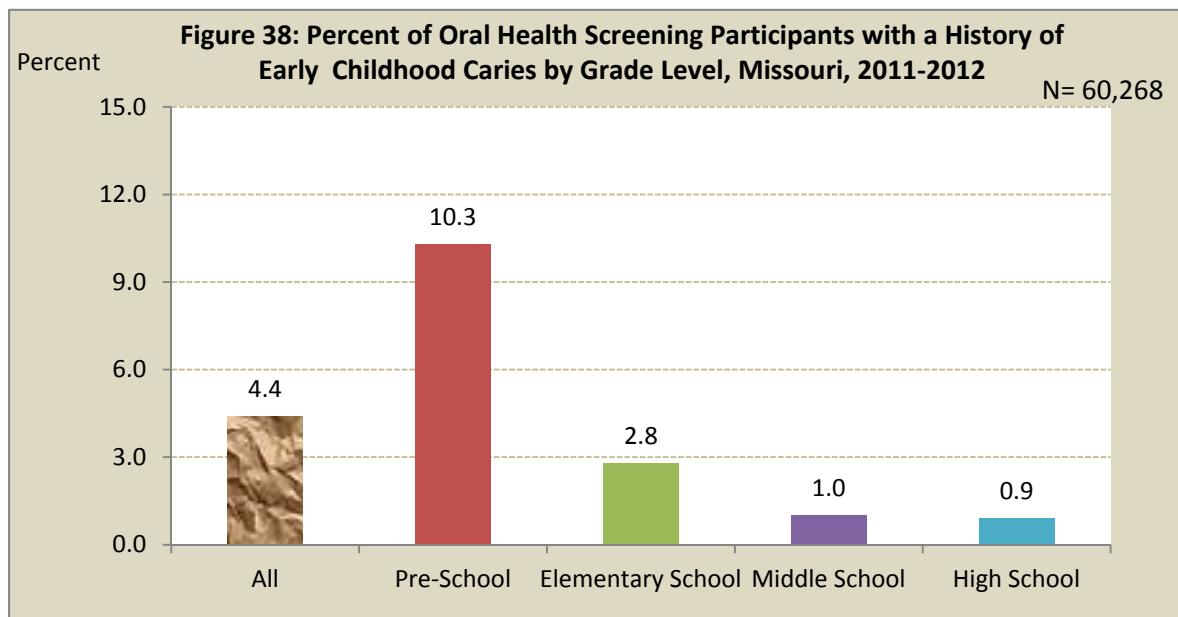
A history of early childhood caries was most prevalent among Hispanic children (10.0%) followed by African-Americans (9.5%) and Asian-Pacific Islanders (8.5%) and lowest among whites (3.4%) (Figure 36).



The younger the age, the higher the percent of children who had a history of early childhood caries, with the highest percent among children age 4 and younger at 11.8 percent (Figure 37).

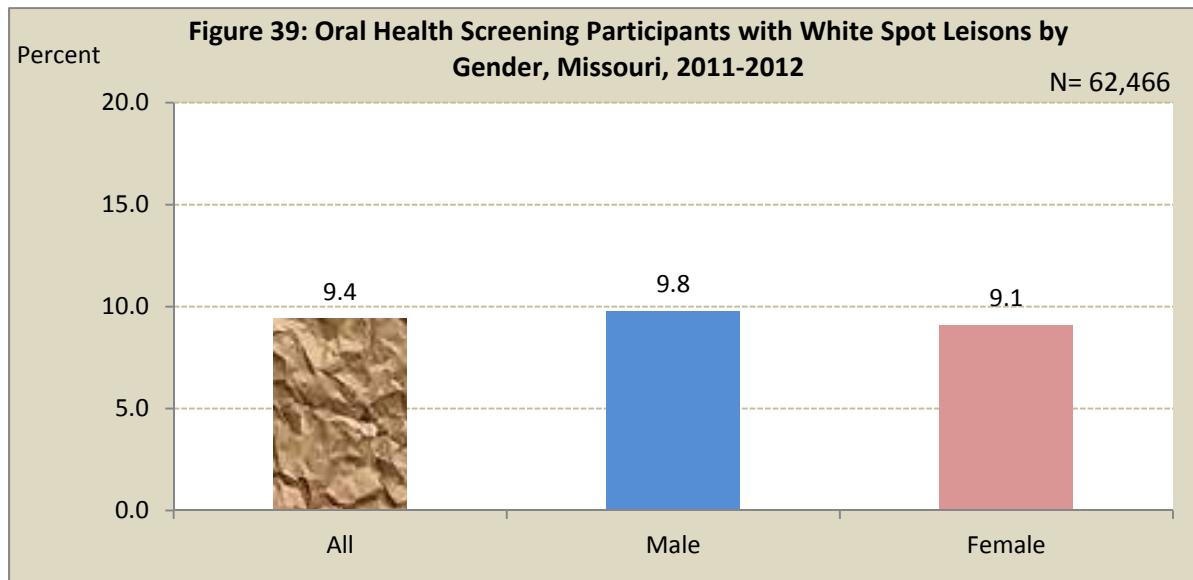


The data showed that the higher the grade levels, the lower the percent of children who had a history of early childhood caries, with the highest among preschool children at 10.3 percent (Figure 38).

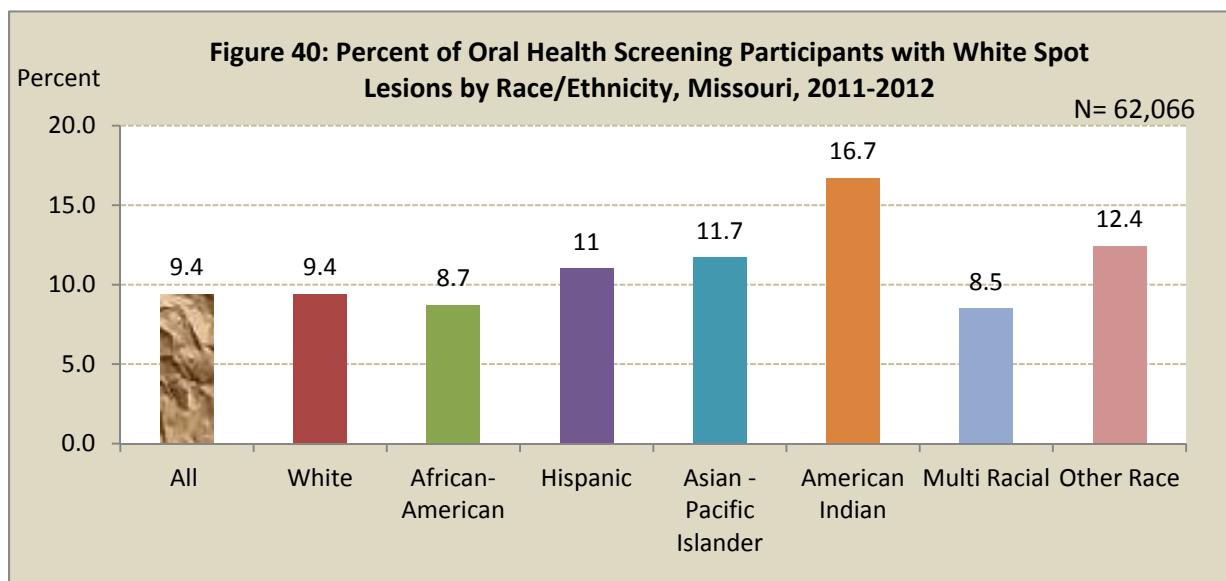


## White Spot Lesions

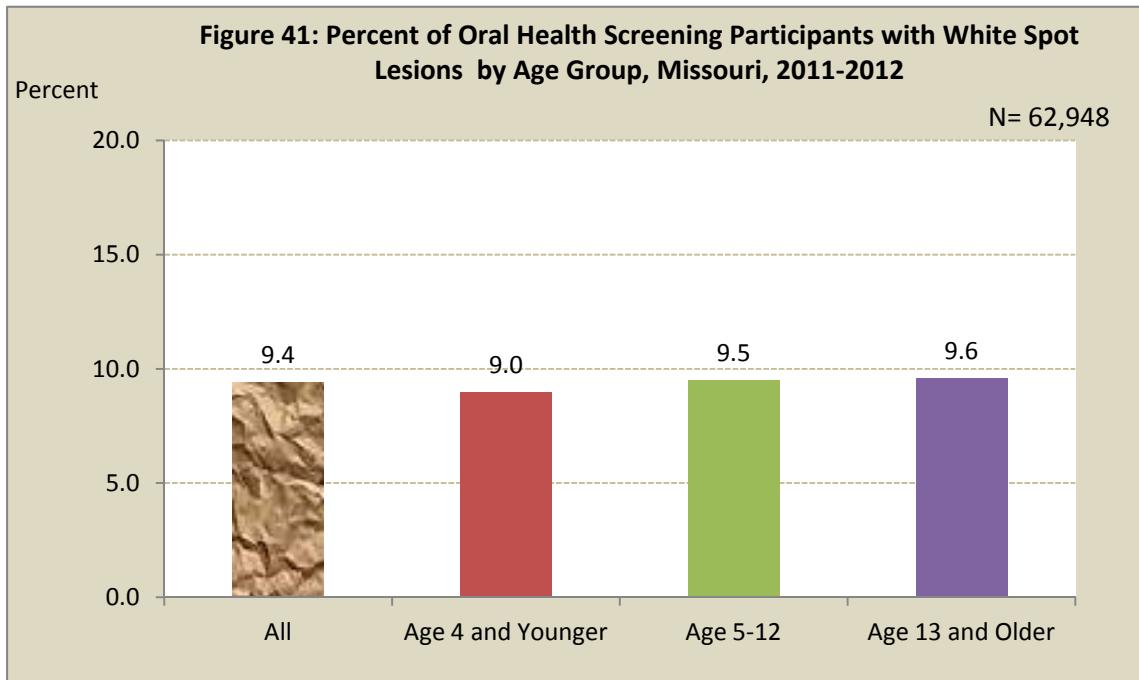
In 2011-2012, about 10 percent of children (9.4%) had white spot lesions, 9.8 percent among males and 9.1 percent among females (Figure 39).



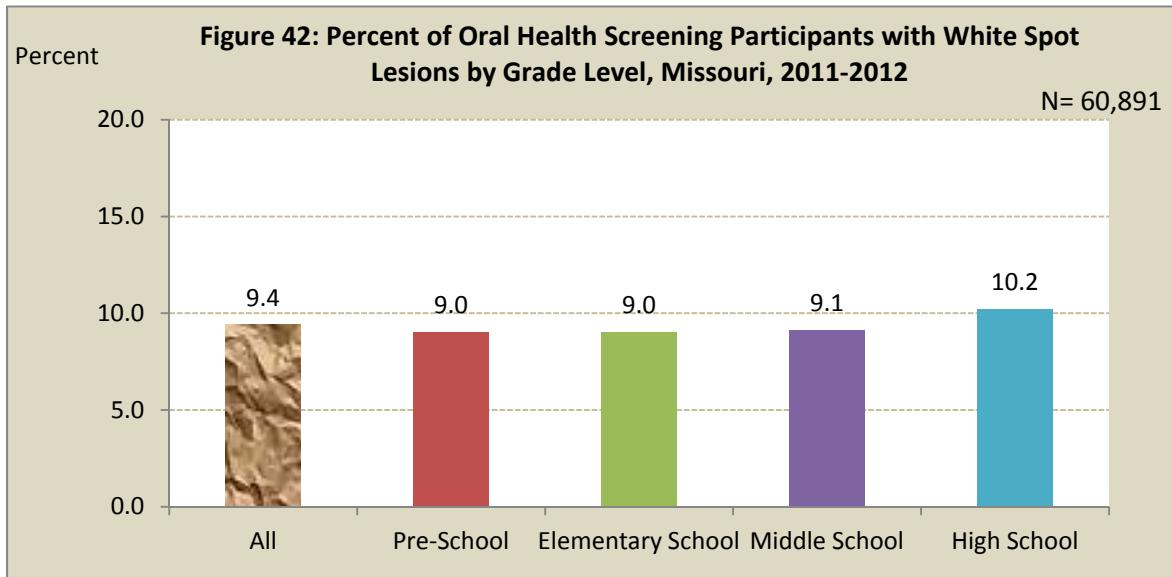
The white spot lesions were more prevalent among American Indians (16.7%), followed by Asian Pacific Islanders (11.7%), and the least among multi-racial and African-Americans with less than 9.0% in each group (Figure 40).



The prevalence of white spot lesions among oral health screening participants was between 9 and 10 percent among all age groups (Figure 41).



The prevalence of white spot lesions among children was also about 9 and 10 percent among all grade levels (Figure 42).



## **Summary**

The information collected through the PSP provides useful information on the dental health status and the need for dental care among Missouri children. These data show the type of oral health services provided to children in Missouri.

The participating children in 2011-2012 had almost the same gender mix. These children were predominantly white (82.6%), followed by African-American (8.7%) and Hispanic (5.1%). The remaining participants made up less than 4 percent of the total participants. The majority of the participating children were in the age group 5-12 years (83.9%) followed by age 4 and younger (11.2%) and age 13 and older (4.9%). The majority of children were at the elementary school level (65.6%) followed by pre-school (23.5%), middle school (8.2%) and high school (2.8%).

Among children participating in the PSP during 2011-2012, one in five had unsatisfactory dental hygiene and this was consistent in almost all race/ethnicity groups. The available data showed that children age 13 and older had the lowest percent with unsatisfactory dental hygiene compared with other age groups. Unsatisfactory dental hygiene was more prevalent among middle school children, followed by elementary school children and least among high school children.

The analysis of primary teeth treated and untreated decay was limited to children younger than age 13 and of permanent treated and untreated decay was limited to children age 13 and older.

About one-fourth of the children (24.6%) were treated for decay in their primary teeth. Male children had a slightly higher proportion than females, Hispanics had the highest percentage (30.9%) among all race/ethnic groups, children age 5-12 years had 26.0 percent and those in elementary school had a higher percentage (28.3%).

The analysis of permanent treated decay was limited to children age 13 and older. Almost 30 percent of children 13 and older were treated for decay in their permanent teeth. The highest percent (43.9 %) was among Hispanics and high school children (29.3%). About 27.5 percent of children age 13 and older had their permanent teeth treated for decay with no gender inequality.

About 17.9 percent of children younger than age 13 had untreated decay in their primary teeth. Males had a slightly higher percent than females (18.9 vs. 16.8), Asian-Pacific Islanders had the highest percent (23.4%) while whites had the lowest percent (17.5%), the age group 4 and younger had 21.0 percent and preschool children had the highest percent (23.4%) with untreated decay in their primary teeth.

Among children age 13 and older, 17.0 percent had untreated decay in their permanent teeth. Male children had a slightly higher percent than females (18.0% vs. 16.0%), Hispanic children had the highest percent (29.8%) followed by African-American (25.7%) while white children had the lowest percent (15.2%) and high school students had the highest percent of untreated decay in their permanent teeth.

The majority of children (75%) did not require urgent or early dental care. The percent of children who needed urgent or early dental care was higher among male children than among female children, higher among Asian-Pacific Islander than among other racial/ethnic groups, and among those ages 13 and older than among other age groups.

About eight percent of children had a history of rampant caries, and males were slightly higher than females. The percent of children with a history of rampant caries was higher among Hispanics than among other racial/ethnic groups and among those ages 4 and younger than among those who were older.

About one in twenty children had a history of early childhood caries. Regarding a history of early childhood caries, males had a slightly higher percent than females. The percent was highest among Hispanic children compared with children of other racial/ethnic origin, and higher among children age 4 and younger than among other age groups.

In 2011-2012, about 10 percent of children had white spot lesions with almost the same percent among male and female children. The percent of children with white spot lesions were highest among American Indians than among other racial/ethnic groups. The prevalence of white spot lesions was between 9 and 10 percent among all age groups.